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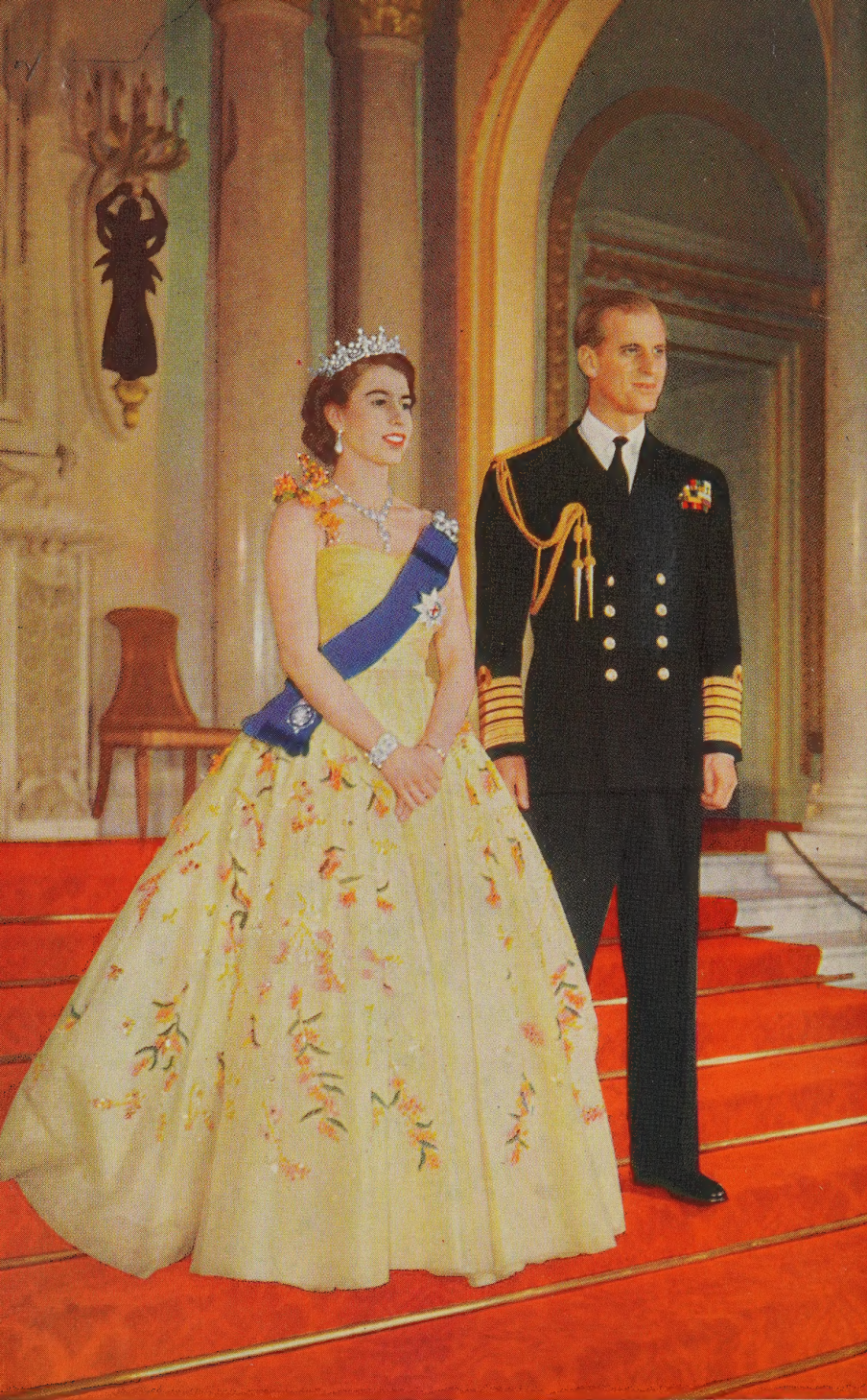
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LEGEND

OUTPUT IN MILLIONS OF DOLLARS

○ \$ 100,000,000 ○ \$ 10,000,000 ○ \$ 1,000,000





Her Majesty Queen Elizabeth II and His Royal Highness the Duke of Edinburgh at Buckingham Palace prior to their departure for Australia and New Zealand.



CANADA 1954

THE OFFICIAL HANDBOOK OF PRESENT
CONDITIONS AND RECENT PROGRESS

PUBLISHED BY THE AUTHORITY OF
THE RIGHT HONOURABLE C. D. HOWE
MINISTER OF TRADE AND COMMERCE

•

PREPARED BY THE
DOMINION BUREAU OF STATISTICS
OTTAWA

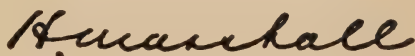
Price 50 Cents

EDMOND CLOUTIER, C.M.G., O.A., D.S.P.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1954

Foreword

THE *Canada Handbook*, a companion volume of *The Canada Year Book*, offers to the public generally in Canada and abroad an attractive and well-balanced picture of the economic and social life of the nation. The textual and statistical coverage of the current edition follows somewhat the same pattern as that in previous editions with emphasis this year directed to recent developments in Canadian manufacturing and to constitution and government. The information presented is as up to date as possible at the time of going to press and gives an outline of Canada's impressive growth to the close of 1953.

The Handbook is produced under the direction of the Editor of the *Canada Year Book*, Dominion Bureau of Statistics. The editing, layout and selection of illustrations are the work of Miss Margaret Pink, Assistant Editor.

A handwritten signature in cursive script, reading "H. Marshall".

Dominion Statistician.

OTTAWA, January 30, 1954.

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Acknowledgments

Grateful acknowledgment is made to all those who supplied information for this publication. Special thanks are extended to Dr. John Davis, Associate Director, Economics Branch, Department of Trade and Commerce, for the preparation of the material appearing in the section on "Manufactures", and to Mr. Walter B. Herbert of the Canada Foundation for the material in the section on "Social and Cultural Relationships". The art work on the end-paper maps was executed by Mr. D. C. Johnson, Economics Branch of the Department of Trade and Commerce.

Acknowledgment is also made to the following sources for assistance in supplying photographic material:—

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Symbols

The interpretation of the symbols used in the tables throughout this publication is as follows:—

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- - amount too small to be expressed or where a "trace" is meant
- figures are preliminary.



"All beautiful the march of days
As seasons come and go . . . "

Malak

Canada—The Country


CANADA covers such a vast area that it comprises within its borders a very wide range of geological formations, of soil and surface conditions, of vegetation and climate. It is, of course, a "northern" country, extending over the whole northern part of the North American Continent to the North Pole, except for Alaska and Greenland, but close to its southern border there are areas almost subtropical in character, particularly the southern part of Vancouver Island off the coast of British Columbia and the Niagara peninsula of Ontario. The southernmost point of Canada is Middle Island in Lake Erie at northern latitude $41^{\circ}41'$ and the most northerly land point is Cape Columbia, Ellesmere Island, at north latitude $82^{\circ}55'$. The most easterly point is Cape Spear, Newfoundland, at west longitude $52^{\circ}37'$ and the most westerly is Mount St. Elias, Yukon Territory, at west longitude 141° . The total area of Canada is 3,845,774 square miles.

At the heart of and extending over nearly half this area lie the old rocks of the Canadian Shield, surrounding Hudson Bay. The West Coast is characterized by the mountain and plateau topography of the Cordilleran Region and between it and the Shield lie the rolling lands of the Great Plains. Another extensive area of flat-to-gently-rolling land is found in the St. Lawrence Lowland bordering the St. Lawrence River and extending westward through southern Ontario to Lake Huron. The Appalachian Mountains of the East Coast of the Continent extend northward into Canada so that most of the country south and east of the St. Lawrence River, including the Island of Newfoundland, is mountainous or hilly.

The fresh-water area of Canada is very extensive constituting almost 7 p.c. of the total area of the country, and its inland waterways, particularly from the standpoint of transportation and power development, are vital influences in the national economy. The Great Lakes-St. Lawrence drainage basin is by far the most important, providing as it does an unequalled system of navigable waterways over 2,200 miles into the interior of the continent.

Politically, Canada is divided into ten provinces and two territories, described briefly, from east to west, as follows:—

Newfoundland.—The Province of Newfoundland includes the Island of Newfoundland and the mainland area known as the Coast of Labrador.



The Island is triangular in shape, each side being about 320 miles long, and is a plateau of low, rolling relief that rises towards the west. Much of the surface is barren and rocky. Its northeast and south coasts are deeply indented, providing many fine harbours for the fishing industry, one of the economic mainstays of the Province. The forest resources are significant and support, at Corner Brook, the largest pulp and paper plant in the world. The Island is a leading producer of iron ore and also produces substantial quantities of copper, lead and zinc. Labrador's rocks, forests and rivers are sources of great potential wealth.

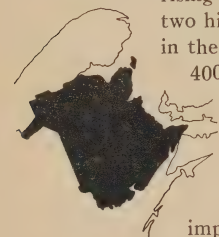
Prince Edward Island.—This is Canada's smallest province, being only about 120 miles in length and having a width that varies from two to 34 miles. Its surface is rolling lowland and its soil is rich and sandy and of a dark red colour. About 85 p.c. of the area is cultivable and is particularly suited to the growing of potatoes which has become an Island specialty along with dairying and lobster fishing and canning.



Nova Scotia.—Nova Scotia is a peninsular province, connected with the mainland by the Isthmus of Chignecto. The northern part of the Province, Cape Breton Island, is separated by the Strait of Canso across which a causeway is being built. The Atlantic coast of Nova Scotia is low and rocky and is indented by many fine harbours that shelter a large fishing fleet. The Bay of Fundy coast is bolder and almost unbroken, and inland are rich farming and forested regions. The Province is an important producer of coal, gypsum, salt and barite. Its most outstanding industries are fish curing and packing and steel.

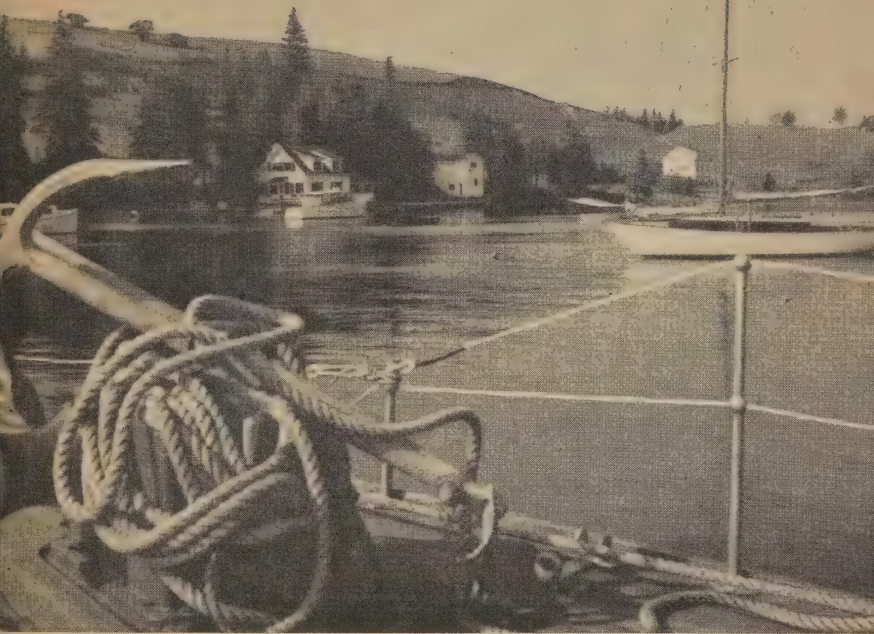


New Brunswick.—The greater part of this Province consists of lowlands, rising nowhere more than 500 feet in height. There are only two highland ridges, one in the northwestern section and one in the southern. It is a land of many lakes and rivers, the 400-mile-long St. John River flowing through rich farmlands to the Bay of Fundy being the most important river east of the St. Lawrence. The coniferous forests of northern New Brunswick are the basis of the pulp and paper industry which is the largest single manufacturing industry in the Province. Fishing is also important. Mineral production is small but the recent discovery of large deposits of lead-zinc-copper ores near Bathurst offers prospect of a significant mineral development in the near future.



Quebec.—Quebec is the largest province in Canada, stretching from south of the St. Lawrence River north to the shores of Hudson Bay and Hudson Strait and, because of its great expanse, it has wide variations in climate and vegetation. Most of its surface is the plateau-like highland of the Canadian Shield. The valley of the St. Lawrence separates this area from the Appalachian Mountains to the south, and it is in the St. Lawrence Lowlands fertile plain that Quebec's population is mainly centered—the industrial cities and towns, based on tremendous water-power, transportation and forest resources, and the farming communities. The forest resources rank first in the economy of the Province and are the basis of its leading position in the production of pulp and paper. In water-power resources and development, Quebec also ranks first among the provinces. Gold, copper, zinc, silver and titanium are recovered from the rocks of the Canadian Shield and facilities for the production and transportation of

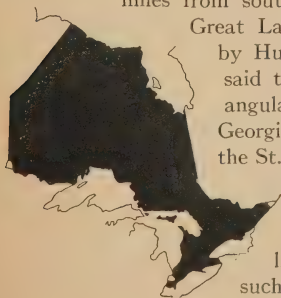




Mahone Bay at Chester on the south shore of Nova Scotia lies serene and beautiful on a summer day. The Province's low and rocky coast, open to the sweep of Atlantic storms, is indented with many fine sheltering harbours.

iron ore from the rich deposits of the Quebec-Labrador Region are nearing completion. Quebec supplies about 70 p.c. of the world output of asbestos. Dairying and live-stock raising are the main agricultural pursuits, although other farm products are produced for the large urban markets. Commerce has long been important, Montreal being the chief Canadian port as well as the greatest industrial city of Canada.

Ontario.—Ontario, which extends 1,000 miles from east to west and 1,050 miles from south to north, is bounded on the south by the Great Lakes-St. Lawrence waterway and on the north by Hudson and James Bays. The Province may be said to be divided into two main sections. The triangular, undulating-to-rolling section lying between Georgian Bay and Lake Ontario and extending along the St. Lawrence Valley is the well-settled farming and industrialized area. It contains some of the finest agricultural land in the world and produces a wide variety of crops. Dairying and live-stock raising are perhaps predominant but such specialized crops as fruit and tobacco are very



important. The wide range of natural resources of forests, minerals, water-power and agriculture, the large population and the excellent transportation facilities have made this the most highly industrialized area in Canada. A great diversification of products is produced, the outstanding industries being motor-vehicles and parts, pulp and paper, slaughtering and meat packing, non-ferrous metal smelting and refining and primary iron and steel. The northern and western part of the Province, comprising the second section, is forest-clad and rich in mineral and water-power resources. The Province has long been Canada's leading mineral producer and accounts for 95 p.c. of the world supply of nickel. It is also an important producer of gold, copper, silver, platinum and iron ore.

Manitoba.—This is the central province of Canada and, although about one-third of it is prairie, it also includes forested areas, three large fresh-water lakes and thousands of smaller lakes and waterways, a wide rock belt and a great area of northern tundra.



A large proportion of the Province lies within the Canadian Shield. The deep fertile soil of the southern grasslands is ideally suited to wheat cultivation, while live-stock farming and dairying are carried on in the more humid portions of the Province. However, on the basis of value of production, agriculture holds second place to manufacturing. The leading industries are those processing agricultural products, railway rolling-stock, wood and paper products and clothing. Mineral resources, such as copper, zinc, gold, nickel and silver, are found mainly along or near the Manitoba-Saskatchewan border. Most of the population is settled in the prairie and woodland territory in the southern section and Winnipeg, a great railway centre, is considered the gateway to the West.

Saskatchewan.—Saskatchewan lies in the centre of the Great Plains Region. In the southern two-thirds of the Province, deep fertile soils support Canada's most intensive wheat cultivation. This area is also rich in non-metallic minerals. A considerable quantity of lignite coal is strip-mined, and crude oil and natural gas are being produced in increasing quantities. The topography of the northern half of the Province is typical of the Canadian Shield of which it forms a part. It is an area of low, hummocky hills and rock ridges, rich in timber resources and the source of metal wealth such as copper, zinc, gold and uranium.



Alberta.—Alberta has three marked physical features—the plains, the foothills and the portion of the Rocky Mountains within its boundaries. The vegetation overlying this presents marked variation from the arid area of the southeast to the more humid parklands merging with forests to the north. The southern portion is part of the prairie plains and is devoted to the production of wheat and vegetables. In some areas, however, rainfall is so uncertain that irrigation is necessary for crop raising. Cattle ranching is common in the very dry unirrigated sections and in the Rocky Mountain foothills. Alberta possesses the greatest coal resources in Canada and is also the leading producer of crude petroleum and natural gas. The development



of these fuel resources is the basis of most of the industrial activity. Lumbering is important in the uplands and mountains of the north and west.

British Columbia.—British Columbia, the third largest province in Canada, lies almost entirely within the Cordilleran Region of North America.

This Province has rough, mountainous topography and is a region of sharp contrasts in climate, soil and vegetation.



Along the coast, mixed farming and special enterprises flourish. The high interior plateaux support a grazing industry under semi-arid conditions and irrigation in the southern interior has transformed a virtual desert into one of the richest fruit-growing districts in Canada. Far to the north in the Peace River district, grain-growing and mixed farming predominate. A wealth of forest resources places British Columbia first among the provinces in lumber production and supports as well large pulp and paper plants. The mountains themselves are rich in minerals.

The Sullivan mine at Kimberly is one of the leading producers of lead and zinc in the world and considerable quantities of gold, copper, silver, tungsten, iron ore and coal are also produced.

The Cypress Hills plateau of southeastern Alberta, a heavily wooded hilly area with plenty of water, forms an oasis in the dry, hot and treeless plains surrounding it. Viewed from The Bench, at an elevation of 4,810 feet, Medicine Lodge Coulee extends to the horizon where it merges with the Sweet Grass Hills of Montana, U.S.A.





Two Canadian Government Arctic supply vessels, the "C.D. Howe" and the "d'Iberville", in Craig Harbour, Ellesmere Island, within 900 miles of the North Pole.

Yukon Territory.—Yukon Territory is located in the northern part of the Cordilleran Region. The highest mountain peaks in Canada are found close to the Yukon-British Columbia boundary. Its lower mountain valleys are well forested but it is only in the southeast that the timber grows to merchantable size and is accessible. Since the Klondike gold rush around the beginning of the present century, Yukon has been an important gold producer; silver, lead and zinc are also mined in substantial quantities.



Northwest Territories.—The Northwest Territories, the remainder of the vast area north of the 60th parallel of latitude, is, for administrative convenience, divided into three districts. The continental portion, together with the islands of Hudson Bay forms the Districts of Mackenzie and Keewatin, while the District of Franklin embraces the northern islands. Surface features vary from the broad valleys of the Mackenzie River, where limited agriculture and lumbering enterprises are carried on, to the mountains of eastern Baffin Island and Ellesmere Island. Between these extremes are the treeless plains of the northern tundra. The Mackenzie River, more than 2,600 miles in length, and Great Bear and Great Slave Lakes are important transportation routes.



Oil from the Norman Wells area, uranium ore from the pitchblende deposits at Port Radium, and gold from the Yellowknife area are produced

in the Territories. Caribou, seal, walrus and whale are hunted for food and for profit by the native Indian and Eskimo populations.

Canada's most northern group of Arctic islands has recently been named the Queen Elizabeth Islands. They include some 160,000 sq. miles of territory and comprise all the Canadian soil north of Lancaster and Viscount Melville Sounds—Canada's final frontier. The area is inhabited by fewer than 200 persons scattered among seven tiny communities.

Approximate Land and Fresh-Water Areas of the Provinces and Territories

Province or Territory	Land	Fresh Water	Total
	sq. miles	sq. miles	sq. miles
Newfoundland.....	147,994	7,370	155,364
Prince Edward Island.....	2,184	- -	2,184
Nova Scotia.....	20,743	325	21,068
New Brunswick.....	27,473	512	27,985
Quebec.....	523,860	71,000	594,860
Ontario.....	348,141	64,441	412,582
Manitoba.....	219,723	26,789	246,512
Saskatchewan.....	220,182	31,518	251,700
Alberta.....	248,800	6,485	255,285
British Columbia.....	359,279	6,976	366,255
Yukon Territory.....	205,346	1,730	207,076
Northwest Territories.....	1,253,438	51,465	1,304,903
Canada.....	3,577,163	268,611	3,845,774

• *Lands Resources*

Agricultural land in Canada has been developed on a substantial scale and is well distributed from east to west. It is characterized by a diversity of contour, soil and climate and is thus capable of producing a great variety of crops to an extent well beyond domestic requirements. Of the total land area of 3,577,163 sq. miles, 15·5 p.c. is estimated as suitable for cultivation and of this area a little less than half is at present occupied. Most of the unoccupied land considered potentially suitable for agriculture is now under forest. Altogether about 37 p.c. of the land area of the country is forested and the remainder, which is classified as waste and other land, includes open muskeg, rock, road allowances, urban land, etc.

About 10 p.c. of the total land area of Canada has been alienated from the Crown and is now in private hands, 42 p.c. is under federal administration and the remainder is under provincial administration. The high percentage of federal land is accounted for by the fact that the Yukon and Northwest Territories, which comprise 40 p.c. of the land surface of the country, are under the jurisdiction of the Federal Government. Other federal lands include national parks and historic sites, forest experiment stations, experimental farms, Indian reserves, ordnance lands, etc. All unalienated lands within the provincial boundaries are administered by the provincial governments.

National Parks.—The National Parks are maintained by the Federal Government. Differing widely in character and purpose, they include scenic and recreational parks, wild animal parks set aside for the protection and

propagation of species in danger of extinction, and national historic parks. In addition, about 450 sites of historic importance have been marked. There are 28 separate units with a total area of over 29,000 sq. miles.

The Parks are developed and maintained in such a manner that they will not be despoiled or exhausted by use but will continue to provide inspiration, education and healthful recreation for present and future generations. By progressive stages they have been made more easily accessible and their facilities for recreation and accommodation have been vastly extended.

Locations and Areas of National Parks

Park	Location	Area
		sq. miles
Scenic		
Jasper.....	Western Alberta, on east slope of Rockies...	4,200·0
Banff.....	Western Alberta, on east slope of Rockies...	2,564·0
Prince Albert.....	Central Saskatchewan, north of Prince Albert	1,496·0
Riding Mountain.....	Southwestern Manitoba.....	1,148·0
Kootenay.....	Southeastern British Columbia, on west slope of Rockies.....	543·0
Glacier.....	Southeastern British Columbia, on summit of Selkirk Range.....	521·0
Yoho.....	Eastern British Columbia, on west slope of Rockies.....	507·0
Cape Breton Highlands.....	Northern part of Cape Breton Island, Nova Scotia.....	390·0
Waterton Lakes.....	Southern Alberta, adjoining Glacier Park in Montana, U.S.A.....	204·0
Mount Revelstoke.....	Southeastern British Columbia, on west slope of Selkirks.....	100·0
Fundy.....	On Bay of Fundy, between Moncton and Saint John in New Brunswick.....	79·5
Prince Edward Island.....	North shore of Prince Edward Island.....	7·0
Point Pelee.....	On Lake Erie, southern Ontario.....	6·0
Georgian Bay Islands.....	In Georgian Bay, north of Midland, Ontario	5·4
St. Lawrence Islands.....	In the St. Lawrence River, Ontario.....	189·4
		(acres)
Wild Animal		
Wood Buffalo.....	Partly in Alberta and partly in the Northwest Territories, between the Athabasca and Slave Rivers.....	17,300·0
Elk Island.....	Central Alberta, near Edmonton.....	75·0
Historic		
		acres
Fortress of Louisburg.....	Cape Breton Island, Nova Scotia.....	339·5
Fort Lennox.....	Ile-aux-Noix, Quebec, near St. Johns.....	210·0
Fort Beauséjour.....	New Brunswick, near Sackville.....	81·3
Fort Prince of Wales.....	Northern Manitoba, near Churchill.....	50·0
Fort Battleford.....	South of North Battleford, Saskatchewan..	36·7
Fort Anne.....	Nova Scotia, at Annapolis Royal.....	31·0
Port Royal.....	Lower Granville, Nova Scotia, eight miles from Annapolis Royal.....	17·0
Lower Fort Garry.....	Twenty miles north of Winnipeg, Manitoba.	12·8
Fort Wellington.....	Prescott, Ontario.....	8·5
Fort Malden.....	Amherstburg, Ontario.....	5·0
Fort Chambly.....	Chambly, Quebec.....	2·5

Provincial Parks.—Six of the provinces have established Provincial Parks. While in many cases they are undeveloped areas set aside in their natural state, some of the larger parks, especially in British Columbia, Quebec and Ontario, are highly developed and well served with hotels and other tourist accommodation and have organized recreational facilities. The total area of provincial park land is about 41,155 sq. miles, located by province as follows: Quebec, 20,026 sq. miles; British Columbia, 14,081 sq. miles;

Ontario, 5,212 sq. miles; Saskatchewan, 1,685 sq. miles; Alberta, 109 sq. miles; and Newfoundland, 42 sq. miles. In Manitoba, park developments are being carried out in some of the Province's forest reserves.

Locations and Areas of Provincial Parks over 1,000 Square Miles in Area

Park	Location	Area
		sq. miles
Laurentides.....	25 miles north of Quebec city, Quebec.....	3,612·6
Trembling Mountain.....	80 miles north of Montreal, Quebec.....	1,223·0
La Vérendrye.....	140 miles northwest of Montreal, Quebec...	4,746·9
Chibougamau Fish and Game Reserve.....	In northern Quebec, 30 miles west of Lake St. John.....	3,400·0
Kipawa Lake Fish and Game Reserve.....	In western Quebec, about eight miles north-east of Timiskaming.....	1,000·0
Mistassini Fish and Game Reserve	Vicinity of Lake Mistassini, northern Quebec	5,200·0
Algonquin.....	In southeastern Ontario, 141 miles north of Toronto and 105 miles west of Ottawa...	2,741·0
Quetico.....	In the Rainy River district of northwestern Ontario. Southern boundary adjoins the International Boundary.....	1,860·0
Lac La Ronge.....	In Saskatchewan, 190 miles north of Prince Albert.....	1,140·0
Tweedsmuir.....	Bella Coola, Burns Lake, British Columbia.	5,400·0
Wells Gray.....	North of Kamloops, British Columbia.....	1,820·3
Hamber.....	Big Bend Highway, British Columbia. Park adjoins Jasper and Banff National Parks.	3,799·9

The newly named Queen Elizabeth Range, formerly the Maligne Range, raises snow-capped peaks to the sky above Maligne Lake in the Canadian Rockies. The Lake is the largest body of glacial water south of the Arctic Circle.



National Capital Plan.—A master plan to guide the long-range development of Ottawa and the surrounding district and thereby to create a Capital City in keeping with Canada's achievements and status as a nation, was completed in 1948 and tabled in the House of Commons in 1951.

The Federal District Commission, the agency responsible for the carrying out of the plan, has reported considerable progress. Plans for a number of government buildings and other projects have been approved and several of the new buildings completed and occupied. A great advance was made in 1953 on the installation of new railway facilities in accordance with the plan to remove present trackage from central Ottawa and Hull to the urban outskirts. The most important project started in 1953 was the rebuilding of Sussex street, a main artery on which are located several national buildings and residences, involving the removal of street-car tracks and overhead wiring. Improvement in the Hull approach to the Chaudière bridges was decided upon and the use of part of the National Capital Fund to share the costs of extending municipal water and sewage services was continued. The acquisition of land for the new eastern and western parkways, which will run in a broad arc south from the vicinity of Rockcliffe Airport, cross the Rideau River near Hog's Back and extend west and north to the Ottawa River near Britannia, was also continued and work was started on the Hog's Back-Mooney's Bay Park.

Gatineau Park, a 45,000-acre area in the Gatineau Hills just north of Ottawa, set aside as a recreational park and game sanctuary, is administered by the Federal District Commission and is part of the Capital Plan. It is an area of wooded hills and vales, of lakes and streams, in which trails, picnic spots and camping sites are available for summer enjoyment. In winter it is the ski centre of the Ottawa district.

• **Wildlife Resources**

Wildlife resources have been important throughout Canada's development. The quest for furs stimulated the early explorers, encouraged settlement in the coastal lands of Eastern Canada, and sent adventurers into the unknown backwoods. Upon the fur trade the great enterprise of the Hudson's Bay Company was founded. Without wildlife to provide food and clothing for the pioneers, agricultural and mineral development of Canada would have been delayed and handicapped. Even to-day, thousands of Canadians depend mainly on wildlife products for food, clothing and income.

The chief products of wildlife, for human use, are meat and furs. Although wild meat is of less relative importance than it was a century ago, it is estimated that game adds some 48,000,000 lb. of meat annually to the Canadian larder. Of that amount the deer family provides 38,000,000 lb., waterfowl 6,000,000 lb., and upland game birds 3,000,000 lb.

During the present century, pen-raising of fur-bearing animals has developed into an important industry, but the taking of wild furs still holds a prominent place in the Canadian economy. Furs are always in demand for warmth or elegance, but the proportions of the different species of animals that are taken for their fur vary from time to time. A generation ago long-haired furs, such as fox, were popular; to-day the vogue for a slender feminine silhouette has changed the emphasis to short-haired furs. That change has caused a dislocation in the economy of the inhabitants of the northern regions



Manitoba's Riding Mountain National Park area is a natural home for deer, elk, moose and bear. Wild fowl are numerous, song-birds and birds of brilliant plumage enliven the forests, beaver live along the streams and buffalo feed on the rich meadows. Specimens are displayed in the Park Museum.

where fox-pelts are depended upon for much of the income and where there are few short-haired fur-bearers.

Fluctuations in fur supplies result from other natural or man-made causes, or from both. Some years ago beaver, once the chief Canadian fur-bearer, became scarce because of over-trapping and other reasons. Intensive conservation measures by game authorities helped to restore beaver populations. During the period 1936-51, the beaver take was quadrupled but, even so, because of low current prices, not enough of the animals were being harvested to keep pace with the natural increase. In consequence, disease spread rapidly among the excessive beaver population in Central and Western Canada and many areas reported a serious die-off. This is an instance of the complexity of the problems faced by authorities in regulating wildlife harvests.

Over the greater part of their habitat beaver seldom conflict with other resources of economic value but relations between some other species and the human economy are much closer. Deer, for instance, have increased in numbers because hunting pressure has been offset by the expansion of suitable habitat where forests were opened or cleared for agriculture and in some areas they have become a menace to farm crops.

During the drought of the 1930's, the decline in waterfowl numbers in Western Canada caused grave concern. Measures for habitat improvement, together with decreased hunting pressure during the War and more favourable climatic conditions, helped to restore the ducks to a new peak in recent years. In the meantime, however, the trend to farm mechanization had led to widespread swathing of wheat in the Prairie Provinces, rendering the crop peculiarly vulnerable to duck depredation. Crop losses from ducks now present a major problem in Western Canada.

In order that Canada's wildlife may be managed to the best national advantage, federal and provincial departments concerned with the resource are developing staffs of trained technical and administrative workers. The science of wildlife management, almost unrecognized a generation or two ago, now finds a place on the curricula of several universities. Federal and provincial game administrators meet annually in conference to exchange views and information, examine new techniques, work out co-operative arrangements, and harmonize policies.

• *The Climate*

Because of its great extent there are many variations of climate in Canada. The Pacific Coast has a moist climate with mild winters and cool summers, while the Prairies have a fairly dry climate with cold winters and hot summers. Eastern Canada also has a moist climate but temperatures may be very low in winter and high in summer. In the Arctic regions temperatures vary from cool in summer to extremely cold in winter.

Coastal British Columbia has the most moderate temperature régime in the country; midwinter temperatures averaging just above freezing and midsummer temperatures around 60°. In the southern interior of the Province, temperatures are more extreme, averaging around 20° in midwinter and 65° in midsummer. Precipitation is variable in British Columbia. Some coastal areas receive more than 100 inches annually, winter being the rainy season. In the lee of the mountain ranges and in the interior valleys precipitation is light; in fact the driest regions in southern Canada are to be found in British Columbia.

The three Prairie Provinces of Alberta, Saskatchewan and Manitoba are noted for their extremes of temperature. Values of -40° are common in winter while temperatures in the 90's are expected every summer. January temperatures average near 0° in the settled portions while July averages 65°. Precipitation generally averages between 15 and 20 inches and, fortunately, the wettest months are normally in early summer when the agricultural need is greatest. Winter precipitation is usually all in the form of snow and the water equivalent amounts to less than 25 p.c. of the annual precipitation.

Wide ranges of temperature are experienced in Ontario and Quebec. The northern portions of these Provinces average -10° in midwinter and 55° in midsummer while the southern sections have average values of 15° and 65° in midwinter and midsummer, respectively. Extreme values of -60° have occurred in the north in winter while values of 95° to 100° are quite common in the south in summer. The precipitation régime throughout the year is quite uniform in both Provinces, average amounts being 20 to 30 inches in the northern sections and 30 to 40 inches in the southern portions. Snowfall is quite

abundant, exceeding 100 inches per annum immediately in the lee of the Great Lakes in Ontario and throughout most of Quebec.

In the Atlantic Provinces, January temperatures average 10° to 25° and July temperatures 60° to 65°, while extremes in the past several years have been as high as 100° and as low as -40° in interior New Brunswick. Prince Edward Island, Nova Scotia and the Island of Newfoundland do not have such wide variations but temperatures in excess of 85° in summer and below -10° in winter may be expected. Temperatures in coastal Labrador average slightly above 0° in winter and 50° in summer. Precipitation is high in the southern portion of the Atlantic Provinces, averaging about 50 inches, but decreases northward to about 20 inches annually in northern Labrador. The wettest seasons are autumn and winter.

Mean January temperatures in the Yukon and Northwest Territories decrease from 0° in the southern Yukon to below -30° on the far northern Arctic islands. In July the upper Mackenzie valley has temperatures which average over 60° while the northwestern island averages less than 40°. The lowest temperature ever reported in Canada is -81° and was observed at Snag, Yukon Territory; in summer temperatures exceeding 90° have occurred in the Yukon Territory and Mackenzie Valley.

Temperature and Precipitation Data for 35 Representative Localities in Canada

Station	Length of Record Yrs.	Temperature (deg. Fahrenheit)					Precipitation (inches)		
		Av. Annual	Av. January	Av. July	Ex-treme High	Ex-treme Low	Av. Annual	Driest Year	Wet-test Year
Gander, Nfld.	14	39	19	62	91	-16	39.5	32.1	47.2
St. John's, Nfld.	20	41	24	61	89	-10	53.1	40.9	61.8
Charlottetown, P.E.I.	30	42	19	67	98	-23	42.2	31.0	54.6
Annapolis Royal, N.S.	30	45	24	65	91	-13	41.4	27.1	54.1
Halifax, N.S.	30	44	24	65	94	-21	54.2	38.8	67.0
Sydney, N.S.	30	43	23	65	98	-23	50.6	32.5	62.3
Chatham, N.B.	26	40	12	66	102	-43	36.3	28.4	46.4
Fredericton, N.B.	30	41	14	67	102	-38	41.9	28.6	50.8
Saint John, N.B.	30	42	20	62	93	-21	47.7	37.6	60.1
Arvida, Que.	19	37	4	65	95	-42	38.8	31.8	46.5
Fort McKenzie, Que.	12	23	-13	54	91	-60	20.7	14.3	27.3
Sherbrooke, Que.	30	42	15	68	98	-39	38.9	27.9	48.0
Montreal, Que.	30	44	15	70	97	-29	41.8	31.0	51.4
Kapuskasing, Ont.	30	33	-1	63	101	-53	28.0	19.1	39.2
Ottawa, Ont.	30	42	12	69	102	-38	34.8	23.2	42.5
Port Arthur, Ont.	30	37	8	63	104	-41	27.6	17.1	40.8
St. Catharines, Ont.	30	48	26	72	104	-12	27.4	21.3	44.0
Toronto, Ont.	30	47	24	71	105	-22	30.9	23.8	40.6
Churchill, Man.	20	19	-16	55	91	-50	14.4	8.6	22.1
The Pas, Man.	30	31	-6	65	100	-54	17.0	9.3	26.2
Winnipeg, Man.	30	37	1	68	108	-44	19.7	14.0	24.5
Prince Albert, Sask.	30	34	-1	65	103	-56	15.6	7.6	25.4
Regina, Sask.	30	37	2	67	110	-54	15.1	8.6	22.5
Beaverlodge, Alta.	30	36	10	60	98	-53	17.3	10.0	23.4
Calgary, Alta.	30	39	16	62	97	-46	17.5	9.6	29.8
Edmonton, Alta.	30	37	7	63	99	-55	17.8	12.4	23.8
Medicine Hat, Alta.	30	42	14	70	106	-49	13.6	7.2	25.3
Cranbrook, B.C.	30	41	16	64	102	-42	14.5	8.1	21.5
Nelson, B.C.	30	46	24	67	103	-17	28.5	18.1	38.9
Penticton, B.C.	30	48	27	69	105	-16	11.5	6.3	17.4
Prince George, B.C.	30	39	15	60	102	-58	22.2	14.5	31.3
Victoria, B.C.	30	50	39	60	95	6	26.2	17.3	37.2
Dawson, Y.T.	30	24	-16	60	95	-73	14.0	9.0	17.9
Coppermine, N.W.T.	19	12	-19	49	87	-58	10.9	7.8	19.7
Fort Good Hope, N.W.T.	30	18	-21	60	94	-69	12.2	8.8	17.1



The momentous changes taking place in Canada's industrial development are particularly reflected in the growth of the city of Edmonton, capital of Alberta. Edmonton, situated in a rich, productive, agricultural area, is the centre of Canada's vast oil, gas and petro-chemical developments and has also become a major distribution centre. The population of the city has been increasing at a steady rate of about 1,000 each month, the increase over the period 1941-51 being nearly 70 p.c.

The People

• Population

THE population of Canada at the beginning of 1954 had just passed the 15,000,000 mark, a gain of one million since the decennial Census of 1951. The Census provides the most recent source of information on the detailed characteristics of Canada's population. At June 1, 1951, when a total of 14,009,429 was recorded, there were 2,500,000 more people within the borders of Canada than there were a decade previously. This increase included over 361,000 people added through Newfoundland's entry into Confederation in 1949. In the ten-year period there was an increase of 3 p.c. in the population of Prince Edward Island, 11 p.c. in Nova Scotia and 13 p.c. in New Brunswick. Quebec and Ontario each increased by 21 p.c. and registered the largest numerical gains among the provinces of 724,000 and 810,000, respectively. Striking differences occurred in the rates of growth of the three Prairie Provinces with Manitoba gaining 6 p.c., Saskatchewan losing 7 p.c., and Alberta increasing 18 p.c. British Columbia showed the greatest rate of growth with a gain of 42 p.c. and the third highest numerical gain amounting to 347,349.

Population of Canada, by Province, Census Years 1901-51

NOTE.—The figures for certain censuses are not altogether comparable but the qualifications are for the most part technical and are given in detail in the Census reports.

Province or Territory	1901	1911	1921	1931	1941	1951
	No.	No.	No.	No.	No.	No.
Newfoundland.....	...	...	...	...	...	361,416
Prince Edward Island	103,259	93,728	88,615	88,038	95,047	98,429
Nova Scotia.....	459,574	492,338	523,837	512,846	577,962	642,584
New Brunswick.....	331,120	351,889	387,876	408,219	457,401	515,697
Quebec.....	1,648,898	2,005,776	2,360,510	2,874,662	3,331,882	4,055,681
Ontario.....	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	4,597,542
Manitoba.....	255,211	461,394	610,118	700,139	729,744	776,541
Saskatchewan.....	91,279	492,432	757,510	921,785	895,992	831,728
Alberta.....	73,022	374,295	588,454	731,605	796,169	939,501
British Columbia....	178,657	392,480	524,582	694,263	817,861	1,165,210
Yukon Territory....	27,219	8,512	4,157	4,230	4,914	9,096
Northwest Territories	20,129	6,507	8,143	9,316	12,028	16,004
Canada.....	5,371,315	7,206,643	8,787,949 ¹	10,376,786	11,506,655	14,009,429

¹ Includes 485 members of the Royal Canadian Navy, who were recorded separately.

The mixed trends in the Prairie Provinces are further illustrated by comparing the 1941 and 1951 population totals with those of the 1946 Census of these three Provinces. Manitoba's population showed a slight loss between 1941 and 1946 and then gained 50,000 between 1946 and 1951. In Saskatchewan the net loss in population during the war years was most striking, amounting to 73,000, but the decrease levelled off between 1946 and 1951 and the population in this Province is once again increasing. The recent trend toward increased mechanization of agriculture, together with fewer and larger



Charlottetown, the capital of Prince Edward Island, Canada's smallest province, is not a large city, but it is well planned and attractive, reflecting the peaceful rural atmosphere of the Island itself. There is neither great wealth nor real poverty among the people on the Island and slums are unknown.

farms, resulted in the exodus of thousands of persons from the rural parts of the prairies, some to neighbouring provinces and others to more populated sections of the same province. In many cases, farms are now worked by operators who commute from the towns and villages to which they have moved. Alberta's large gain in population between 1941 and 1951 was mainly the result of the important oil discoveries in the central part of the Province and to the increasing industrialization of its cities and towns causing, for example, the population of the city of Edmonton to increase by 70 p.c. during those years.

Population of Census Metropolitan Areas, 1941 and 1951

Area	1941	1951	Area	1941	1951
No.	No.	No.	No.	No.	No.
Montreal, Que.....	1,145,282	1,395,400	Windsor, Ont.....	123,973	157,672
Toronto, Ont.....	909,928	1,117,470	Calgary, Alta.....	93,021	139,105
Vancouver, B.C.....	377,447	530,728	Halifax, N.S.....	98,636	133,931
Winnipeg, Man.....	299,937	354,069	London, Ont.....	91,024	121,516
Ottawa, Ont.....	226,290	281,908	Victoria, B.C.....	75,560	104,303
Quebec, Que.....	224,756	274,827	Saint John, N.B.....	70,927	78,337
Hamilton, Ont.....	197,732	259,685	St. John's, Nfld.....	59,474 ¹	67,749
Edmonton, Alta.....	97,842	173,075			

¹ Census of Newfoundland, 1945; figure for 1941 not available.

Most of Canada's larger cities showed sizeable increases in population during the 1941-51 period but the phenomenal rate of growth in the

suburban fringe areas was more impressive. The combined suburban parts of census metropolitan areas (excluding St. John's, Nfld.) recorded an increase of 68 p.c. between 1941 and 1951 compared with a 15-p.c. increase within the cities proper. Toronto was the most notable example—the city proper increased by only a few thousand persons, but the metropolitan area rose in population by almost 208,000. A like development took place in the cities of Montreal, Vancouver, Winnipeg, Hamilton, Ottawa, Edmonton and Quebec. Remarkable, too, was the growth of some of the smaller industrialized cities and towns, such as Arvida and Noranda in Quebec and Sarnia and Peterborough in Ontario.

Populations of Incorporated Urban Centres with 10,000 or More Inhabitants, 1941 and 1951

Urban Centre	1941	1951	Urban Centre	1941	1951
	No.	No.		No.	No.
Arvida, Que.	4,581	11,078	North Vancouver, B.C.	8,914	15,687
Barrie, Ont.	9,725	12,514	Orillia, Ont.	9,798	12,110
Belleville, Ont.	15,710	19,519	Oshawa, Ont.	26,813	41,545
Brandon, Man.	17,383	20,598	Ottawa, Ont.	154,951	202,045
Brantford, Ont.	31,948	36,727	Outremont, Que.	30,751	30,057
Brockville, Ont.	11,342	12,301	Owen Sound, Ont.	14,002	16,423
Calgary, Alta.	88,904	129,060	Pembroke, Ont.	11,159	12,704
Cap-de-la-Madeleine, Que.	11,961	18,667	Penticton, B.C.	1	10,548
Charlottetown, P.E.I.	14,821	15,887	Peterborough, Ont.	25,350	38,272
Chatham, Ont.	17,369	21,218	Port Arthur, Ont.	24,426	31,161
Chicoutimi, Que.	16,040	23,216	Prince Albert, Sask.	12,508	17,149
Cornwall, Ont.	14,117	16,899	Quebec, Que.	150,757	164,016
Dartmouth, N.S.	10,847	15,037	Regina, Sask.	58,245	71,319
Drummondville, Que.	10,555	14,341	Rimouski, Que.	7,009	11,565
Eastview, Ont.	7,966	13,799	Rouyn, Que.	8,808	14,633
Edmonton, Alta.	93,817	159,631	St. Boniface, Man.	18,157	26,342
Edmundston, N.B.	7,096	10,753	St. Catharines, Ont.	30,275	37,984
Forest Hill, Ont.	11,757	15,305	St. Hyacinthe, Que.	17,798	20,236
Fort William, Ont.	30,585	34,947	St. Jérôme, Que.	11,329	17,685
Fredericton, N.B.	10,062	16,018	St. Johns, Que.	13,646	19,305
Galt, Ont.	15,346	19,207	St. John's, Nfld.		52,873
Glace Bay, N.S.	25,147	25,586	St. Laurent, Que.	6,242	20,426
Granby, Que.	14,197	21,989	St. Michel, Que.	2,956	10,539
Grand Mère, Que.	8,608	11,089	St. Thomas, Ont.	17,132	18,173
Guelph, Ont.	23,273	27,386	Saint John, N.B.	51,741	50,779
Halifax, N.S.	70,488	85,589	Sarnia, Ont.	18,734	34,697
Hamilton, Ont.	166,337	208,321	Saskatoon, Sask.	43,027	53,268
Hull, Que.	32,947	43,483	Sault Ste. Marie, Ont.	25,794	32,452
Jacques Cartier, Que.	1	22,450	Shawinigan Falls, Que.	20,325	26,903
Joliette, Que.	12,749	16,064	Sherbrooke, Que.	35,965	50,543
Jonquière, Que.	13,769	21,618	Sillery, Que.	1	10,376
Kingston, Ont.	30,126	33,459	Sorel, Que.	12,251	14,961
Kitchener, Ont.	35,657	44,867	Stratford, Ont.	17,038	18,785
Lachine, Que.	20,051	27,773	Sudbury, Ont.	32,203	42,410
Lasalle, Que.	4,651	11,633	Sydney, N.S.	28,305	31,317
Leaside, Ont.	6,183	16,233	Thetford Mines, Que.	12,716	15,095
Lethbridge, Alta.	14,612	22,947	Three Rivers, Que.	42,007	46,074
Lévis, Que.	11,991	13,162	Timmins, Ont.	28,790	27,743
London, Ont.	78,134	95,343	Toronto, Ont.	667,457	675,754
Longueuil, Que.	7,087	11,103	Trail, B.C.	9,392	11,430
Magog, Que.	9,034	12,423	Trenton, Ont.	8,323	10,085
Medicine Hat, Alta.	10,571	16,364	Truro, N.S.	10,272	10,756
Mimico, Ont.	8,070	11,342	Valleyfield (Salaberry de), Que.	17,052	22,414
Moncton, N.B.	22,763	27,334	Vancouver, B.C.	275,353	344,833
Montreal, Que.	903,007	1,021,520	Verdun, Que.	67,349	77,391
Montreal N., Que.	6,152	14,081	Victoria, B.C.	44,068	51,331
Moose Jaw, Sask.	20,753	24,355	Victoriaville, Que.	8,516	13,124
Mount Royal, Que.	4,888	11,352	Waterloo, Ont.	9,025	11,991
New Toronto, Ont.	9,504	11,194	Welland, Ont.	12,500	15,382
New Waterford, N.S.	9,302	10,423	Westmount, Que.	26,047	25,222
New Westminster, B.C.	21,967	28,639	Windsor, Ont.	105,311	120,049
Niagara Falls, Ont.	20,589	22,874	Winnipeg, Man.	221,960	235,710
North Bay, Ont.	15,599	17,944	Woodstock, Ont.	12,461	15,544

¹ Not incorporated in 1941.

Rural and Urban.—Census figures show that on June 1, 1951, 38 p.c. of Canada's population was established in rural localities and about 52 p.c. of those rural dwellers lived on farms. Thus the farm population constituted about 20 p.c. of the nation's total. In 1941 the proportion of the population residing in urban areas was 56 p.c., and in rural areas 43 p.c. The recent trend towards urbanization in Canada is no exception to that noted in many other countries. In the 1941-51 decade, the urban population, exclusive of Newfoundland, increased 30 p.c. and the rural population 3 p.c.

**Rural Population classified by Farm and Non-Farm, and Urban
Population classified by Size Group, 1951**

Province or Territory	Rural			Urban			
	Farm ¹	Non-Farm	Total	1,000 to 9,999	10,000 to 99,999	100,000 or over	Total ²
	No.	No.	No.	No.	No.	No.	No.
Nfld.	15,456	191,165	206,621	100,375	52,873	—	154,795
P.E.I.	46,757	26,987	73,744	8,798	15,887	—	24,685
N.S.	112,135	185,618	297,753	166,121	178,708	—	344,831
N.B.	145,771	154,915	300,686	86,906	127,209	—	215,011
Que.	766,910	591,453	1,358,363	750,436	752,071	1,185,536	2,697,318
Ont.	678,043	668,400	1,346,443	714,343	1,227,852	1,307,751	3,251,099
Man.	214,435	122,526	336,961	93,965	109,036	235,710	439,580
Sask.	398,279	180,979	579,258	86,379	166,091	—	252,470
Alta.	339,955	149,871	489,826	120,700	39,311	288,691	449,675
B.C.	109,919	261,820	371,739	157,333	289,947	344,833	793,471
Yukon.	44	6,458	6,502	2,594	—	—	2,594
N.W.T.	28	13,252	13,280	2,724	—	—	2,724
Canada	2,827,732	2,553,444	5,381,176	2,290,674	2,958,985	3,362,521	8,628,253

¹ Exclusive of 84,264 persons living on farms in localities classed as "urban".

² Includes a few metropolitan area parts with less than 1,000 population.

Age and Sex.—The high birth rates of the 1941-51 decade were reflected in the 1951 population distributions by age and sex. In 1951 there were 223 persons per 1,000 of total population under 10 years of age, as compared with 182 in 1941 and 213 in 1931. The tendency towards "ageing" of Canada's population was shown by the fact that 114 persons per 1,000 of total population were recorded in the 60 years of age or over group, compared with 102 in 1941 and 84 in 1931.

Males and Females, by Age Group, 1951

Age Group	Male	Female	Total	Age Group	Male	Female	Total
	No.	No.	No.		No.	No.	No.
0-4 years . .	879,063	843,046	1,722,109	55-59 years	292,564	278,126	570,690
5-9 " . .	713,873	683,952	1,397,825	60-64 " . .	264,324	241,828	506,152
10-14 " . .	575,122	555,661	1,130,783	65-69 " . .	228,076	205,421	433,497
15-19 " . .	532,180	525,792	1,057,972	70-74 " . .	160,398	154,674	315,072
20-24 " . .	537,535	551,106	1,088,641	75-79 " . .	94,130	94,261	188,391
25-29 " . .	552,812	578,403	1,131,215	80-84 " . .	45,963	50,828	96,791
30-34 " . .	512,557	530,177	1,042,734	85-89 " . .	17,539	22,060	39,599
35-39 " . .	503,571	495,562	999,133	90 or over . .	5,197	7,726	12,923
40-44 " . .	445,800	422,767	868,567				
45-49 " . .	387,708	356,971	744,679				
50-54 " . .	340,461	322,195	662,656				
				All Ages . .	7,088,873	6,920,556	14,009,429

Birthplace.—Birthplaces of Canada's population as at the date of the Census, June 1, 1951, are given in the following table.

Birthplaces of the Population, 1951

Birthplace	Population	Birthplace	Population
	No.		No.
Canada.....	11,949,518	United Kingdom—concluded	
Newfoundland.....	397,623	Lesser Isles.....	1,903
Prince Edward Island.....	117,310	Other Commonwealth.....	20,567
Nova Scotia.....	660,150	United States.....	282,010
New Brunswick.....	549,984	Europe.....	801,618
Quebec.....	3,881,487	Germany.....	42,693
Ontario.....	3,645,074	Italy.....	57,789
Manitoba.....	699,587	Poland.....	164,474
Saskatchewan.....	817,404	U.S.S.R.....	188,292
Alberta.....	649,594	Denmark, Iceland, Norway and Sweden.....	64,522
British Columbia.....	514,651	Other.....	283,848
Yukon and N.W.T.....	16,654	Asia.....	37,145
United Kingdom.....	912,482	Other countries.....	6,089
England and Wales.....	627,551		
Northern Ireland.....	56,685		
Scotland.....	226,343	Total.....	14,009,429

Two hundred years ago, on June 7, 1753, Lunenburg's first settlers arrived to start life in a new and hostile country. The sea became their livelihood and as time went on Lunenburg's ships and their crews became known the world over. To-day the town's citizens, who in June 1953 re-enacted the landing scenes of long ago, depend on a modernized shipbuilding industry and on fishing operations.



The above figures show that more than 85 p.c. of the nation's 1951 population was born in Canada, a proportion exceeded only once since the turn of the century—in 1901 the figure was 87 p.c. In 1941, 82 p.c. of the population was Canadian-born. This relative increase in native-born population can be attributed largely to reduced immigration during the war years coupled with the high birth rate in the 1941-51 period. The entry of Newfoundland into Confederation with Canada also had an influence in this direction since nearly 99 p.c. of that Province's total population is native-born. In 1951, not quite 7 p.c. of Canada's population indicated that they were born in the United Kingdom or other Commonwealth countries while 2 p.c. reported their birthplace as the United States and 6 p.c. as other countries.

Origin.—In 1951, British Isles and French origins, traditionally the largest cultural groups in Canada, accounted for more than 78 p.c. of the nation's total population. Compared with 1901, the British Isles group dropped from 57.0 p.c. of the total to 47.9 p.c. while the percentage of persons of French origin was very slightly higher at 30.8 as against 30.7. In the same comparison, the percentage of those with ancestry in continental Europe more than doubled from 8.5 to 18.2 and Asiatics showed a slight increase from 0.4 p.c. of the total to 0.5 p.c.

Leading Origins, by Province, 1951

Province or Territory	British Isles ¹	French	German	Ukrainian	Scandinavian ²	Netherlanders	Polish
	No.	No.	No.	No.	No.	No.	No.
Nfld.....	337,780	9,841	368	20	569	176	79
P.E.I.....	80,669	15,477	317	47	253	677	54
N.S.....	482,571	73,760	28,751	1,235	3,193	20,819	2,364
N.B.....	294,694	197,631	2,623	129	3,367	5,920	340
Que.....	491,818	3,327,128	12,249	12,921	5,390	3,129	16,998
Ont.....	3,081,919	477,677	222,028	93,595	37,430	98,373	89,825
Man.....	362,550	66,020	54,251	98,753	32,921	42,341	37,933
Sask.....	351,862	51,930	135,584	78,399	62,439	29,818	26,034
Alta.....	451,709	56,185	107,985	86,957	70,929	29,385	29,661
B.C.....	766,189	41,919	55,307	22,613	65,612	33,388	16,301
Yukon.....	4,829	645	363	170	564	155	136
N.W.T.....	3,095	954	169	204	357	86	120
Canada.....	6,709,685	4,319,167	619,995	395,043	283,024	264,267	219,845

¹ Includes English, Irish, Scottish and Welsh.
Norwegian and Swedish.

² Includes Danish, Icelandic,

Religious Denominations.—Religious denominations in Canada are many and diverse. However, in 1951 more than 95 p.c. of the population belonged or adhered to one of the nine numerically largest religious denominations. Roman Catholics, who comprised more than 43 p.c., were in greatest numbers in Quebec and the Atlantic Provinces. In Ontario and the western provinces, the United Church had the largest following, accounting for 28 to 30 p.c. Approximately 45 p.c. of the Anglicans, 56 p.c. of the Presbyterians, 41 p.c. of the Baptists and 30 p.c. of the Lutherans were in Ontario. Four-fifths of those of Jewish religion resided in Ontario and Quebec while over 93 p.c. of all Ukrainian (Greek) Catholics and 85 p.c. of the persons of Greek Orthodox faith lived in Ontario and the Prairie Provinces.



The Red River separates the city of Winnipeg (left) from the city of St. Boniface. The population of the whole metropolitan area of Winnipeg, covering more than 200 sq. miles, is over 354,000.

Leading Religious Denominations, by Province, 1951

Province or Territory	Roman Catholic	United Church of Canada	Church of England in Canada	Presby- terian	Baptist	Lutheran	Jewish
	No.	No.	No.	No.	No.	No.	No.
Nfld.....	121,544	85,571	109,090	1,914	249	202	264
P.E.I.....	44,802	25,969	6,119	13,383	5,319	43	26
N.S.....	217,978	141,152	117,602	42,422	94,103	9,743	2,201
N.B.....	260,742	71,879	59,847	13,323	90,681	1,016	1,269
Que.....	3,563,951	129,219	166,761	50,410	12,950	9,390	82,701
Ont.....	1,142,140	1,320,366	936,002	439,072	212,467	135,581	85,467
Man.....	156,283	224,554	120,690	34,686	13,483	48,744	19,282
Sask.....	199,424	247,345	95,476	33,290	15,606	91,454	3,017
Alta.....	186,312	276,551	122,980	55,004	34,720	87,364	4,626
B.C.....	168,016	341,914	315,469	97,151	39,445	60,641	5,969
Yukon.....	1,845	1,660	3,420	713	440	456	3
N.W.T.....	6,459	1,091	7,264	379	122	289	11
Canada.....	6,069,496	2,867,271	2,060,720	781,747	519,585	444,923	204,836

Dwellings, Households and Families.—In 1951 there were approximately 3,400,000 occupied dwellings in Canada and 3,287,000 resident families, compared with approximately 2,600,000 dwellings and 2,500,000 families in





1941. The increases were shared by all provinces. Since dwellings and families increased at a faster rate than population, the average number of persons per household in 1951 was 4.0 compared with 4.3 in 1941 and the average per family 3.7 compared with 3.9.

Dwellings, Households and Families, and Persons per Household and Family, by Province, 1951

Province	Population	Dwellings		Families	Persons per Household ²	Persons per Family
		Total ¹	Occupied ²			
	No.	No.	No.	No.	No.	No.
Nfld.....	361,416	78,024	70,980	74,858	5.0	4.4
P.E.I.....	98,429	24,114	22,454	21,381	4.3	4.0
N.S.....	642,584	159,795	149,555	145,127	4.2	3.9
N.B.....	515,697	120,639	114,007	111,639	4.4	4.1
Que.....	4,055,681	898,914	858,784	856,041	4.6	4.2
Ont.....	4,597,542	1,232,081	1,181,126	1,162,772	3.8	3.4
Man.....	776,541	210,565	202,398	191,268	3.7	3.6
Sask.....	831,728	237,406	221,456	196,188	3.7	3.7
Alta.....	939,501	266,939	250,747	223,326	3.6	3.7
B.C.....	1,165,210	356,651	337,777	299,845	3.3	3.3
Canada³....	13,984,329³	3,585,128	3,409,284	3,282,445³	4.0	3.7

¹ Includes institutions, hotels and camps as well as vacant dwellings and dwellings under construction. ² Excludes institutions, hotels and camps. ³ Figures for Canada are exclusive of 25,100 persons and 4,939 families located in the Yukon and Northwest Territories; comparable figures for dwellings are not available.

Population Estimates, 1953.—The June 1, 1953, estimates result from a population accounting which starts with the 1951 Census, adds births and immigration and deducts deaths and emigration for the 12 months. Provincial



Indians living in the Caughnawaga Reserve near Montreal follow a trade that requires brawn, brains, and nerve. These cat-footed men have become famous as steel-riggers and are in demand by construction companies all over North America.

A Royal Canadian Mounted Police constable at Fort Good Hope, N.W.T., assembles articles of food and other necessities which the Federal Government distributes to Indian widows of the settlement.



estimates take into account interprovincial migration estimated from an annual sample survey. Figures by provinces are as follows: Newfoundland, 383,000; Prince Edward Island, 106,000; Nova Scotia, 663,000; New Brunswick, 536,000; Quebec, 4,269,000; Ontario, 4,897,000; Manitoba, 809,000; Saskatchewan, 861,000; Alberta, 1,002,000; British Columbia, 1,230,000; Yukon Territory, 9,000; Northwest Territories, 16,000; a total of 14,781,000.

Indians.—The Indians of Canada are not one race but are divided into a number of widely scattered tribes, speaking different languages and differing in national and cultural background and in economy. According to the 1951 Census, there were 155,874 persons of Indian origin in Canada:—

Province	Male	Female	Total	Province	Male	Female	Total
Nfld.....	184	174	358	Sask.....	11,265	10,985	22,250
P.E.I.....	136	121	257	Alta.....	10,743	10,420	21,163
N.S.....	1,379	1,338	2,717	B.C.....	14,602	13,876	28,478
N.B.....	1,164	1,091	2,255	Yukon.....	734	799	1,533
Que.....	7,556	7,075	14,631	N.W.T.....	1,913	1,925	3,838
Ont.....	19,025	18,345	37,370				
Man.....	10,642	10,382	21,024	CANADA.....	79,343	76,531	155,874

These figures include all persons with a paternal ancestor of Indian race, many of whom have long been assimilated and have lost their identity as Indians. The number of persons considered as Indians under Indian legislation is estimated at about 145,000. The administration of the affairs of these persons is under the jurisdiction of the Indian Affairs Branch of the Department of Citizenship and Immigration, with the exception of medical and health services which are provided by the Department of National Health and Welfare. On Sept. 4, 1951, a new Indian Act was brought into force which completely revised the legislation under which Indian affairs are administered. Under the new Act the Indians have more responsibility than formerly in the conducting of their own affairs in the hope that such responsibility will hasten their advancement towards self-reliance.

Reserves, or lands set aside for the use of Indian Bands, number more than 2,000, varying in size from a few acres to 500 sq. miles. Most of this reserve land is community property but an Indian may be allotted possession of land within a reserve by the Council of the Band.

At Mar. 31, 1953, the Indian Trust Fund amounted to \$22,541,954. The Fund is made up of more than 500 separate accounts belonging to different Bands and is derived mainly from the proceeds of land sales and leases, disposition of timber, mineral and oil rights. A Revolving Fund assists in the purchase of farm implements, machinery, live stock, fishing equipment, seed grain, materials used in native handicrafts, and so on.

The Indian of to-day no longer depends primarily on trapping and hunting for a livelihood. While in the northern portions of the provinces and in the Territories beaver and fox trapping may still serve as the yardstick for the Indian economy, increasing numbers of Indians are employed in logging and lumber camps and mills or in road-building and government construction work in which they have become efficient operators of bulldozers, graders and tractors. In the more southerly regions, the Indians' main source of livelihood is agriculture—grain growing, cattle raising, haying and vegetable gardening—although they often supplement their income with part-time industrial work. Coastal Indians engage in salmon, halibut and herring fishing and clam digging and are also employed in fish and vegetable canneries, in logging and in lumber mills while, in the Maritimes particularly, they operate handicraft and woodworking shops, producing baskets, lobster crates, sash and door frames, etc. Indians frequently serve as guides for hunters and fishermen. In Alberta and Saskatchewan, the Indian Band funds are sharing substantially in the newly found oil wealth, largely through revenues from the sale of oil leases and permits. Many new and improved homes have been erected particularly in the agricultural reserves adjoining industrial centres, where community halls, calf clubs, agricultural study groups and homemakers' clubs are becoming important factors in the advancement of the Indian through general welfare projects.

At Mar. 31, 1953, there were 25,949 Indian children enrolled in 456 schools operated throughout Canada by the Indian Affairs Branch. Of these schools, 67 were residential, 347 day, 30 seasonal and 12 hospital schools. In addition, 2,850 Indian students were enrolled in provincial and private schools, universities, teacher-training schools, nurse-training schools, and commercial, trade and other schools. The operating authority is reimbursed by the Federal Government in the case of Indian pupils enrolled in provincial schools.

The Indian school normally follows the course of study of the province in which it is located, supplemented, in some cases, by vocational training adapted to the needs of Indian pupils. The larger day and residential schools provide courses in leather work, wood work, metal work, boat-building, trapping, poultry raising, cooking and service, and knitting and weaving. Regional inspectors are in the field to co-ordinate the work of Head Office and the schools and to assist in solving any problems that arise.

During the calendar year 1952, \$3,721,164 was paid either in cash or in kind on behalf of Indian children registered to receive the family allowance; at the end of the year 60,747 Indian children were registered.

Eskimos.—The Canadian Eskimos are found principally north of the tree-line on the northern fringe of the mainland, around the coast of Hudson Bay and on some of the islands of the Arctic Archipelago. The 1951 Census recorded an Eskimo population of 9,493, of whom 6,857 were in the Northwest Territories, 1,789 in Quebec and 847 in Newfoundland (Labrador).

The economy of most of these nomadic people depends largely on hunting, fishing and trapping. They have little or no organization beyond the family and usually hunt in small groups, following the movements of game and the changing seasons. In recent years the Canadian Government has viewed with some anxiety the changes in the native economy that have been brought about by the decline in the value of the Arctic fox, once a major source of livelihood, and by the advance of civilization into the Arctic, and has spent

Life is changing for Canada's northernmost citizens. The inevitable advance of civilization with its attendant advantages has also brought many problems to the lives of these happy and resourceful people — problems that have become a special concern of the Federal Government.

A geography lesson in an Aklavik school. ▶

The Eskimo hunts seal with a sealskin blind and a modern rifle. ▼



considerable sums in assisting the Eskimos in their adjustment to an Arctic world that is beginning to change after centuries of isolation. A committee was appointed in 1952 to make a continuing thorough study of Eskimo problems and a subcommittee was appointed to deal exclusively with education. These groups meet twice a year, when all aspects of Eskimo affairs are carefully considered. The Eskimo program includes education, health services and a general improvement of native economy. Handicrafts and other related industries are being introduced.

Eskimo children attend government and mission schools located in the settlements, but their nomadic life creates many problems and teaching periods have to be so arranged as to interfere as little as possible with the normal hunting and trapping life of the parents. Practically all Eskimos are literate in their own language, those in the eastern Arctic using a syllabic system of writing and those in the western Arctic using ordinary Roman script. A start has now been made to formalize the language by the use of bulletins published in both forms but with the ultimate object of teaching all Eskimos to use Roman script.

Medical and health services are provided by the Department of National Health and Welfare assisted by resident missionaries, traders and the Royal Canadian Mounted Police. Nursing stations have been set up and, with the assistance of government grants, mission hospitals with resident government doctors are maintained at Aklavik, Chesterfield Inlet and Pangnirtung. Doctors, dentists and other specialists accompany the annual Eastern Arctic Patrol and treat Eskimos and others at each port of call. Other places are visited periodically by aircraft and other means of transport.

Family allowances are paid to Eskimo families in kind from a list of selected items designed to supplement their normal diet. Eskimos are also eligible in the same way as other Canadians for assistance under old age security and pensions for the blind.

Royal Canadian Mounted Police detachments throughout the Arctic act as local representatives of the Government in all matters relating to Eskimo welfare. Direct contact is also maintained by radio and by inspection flights whenever necessary.

Immigration

The present policy of the Federal Government is to foster the growth of the population of Canada by the encouragement of immigration and, by necessary legislation and vigorous administration, to ensure the careful selection and permanent settlement of such numbers of immigrants as can be absorbed advantageously in the national economy. Admissible classes include certain British subjects, citizens of France and the United States, and any European immigrant who is considered suitable, having regard to the climatic, social, educational, industrial, labour and other conditions or requirements of Canada.

The number of immigrants entering Canada in the post-war period, January 1946 to August 1953, totalled 901,905. British immigrants from overseas countries led in this influx, with a total of 278,293. Immigrants of North European origin numbered 245,657, the leading individual cultural groups being German and Austrian (101,492), Netherlander (87,410) and French (18,124), while those from the United States numbered 66,665.

For many immigrant families, a few years of hard work bring about the realization of a dream—a farm of their own and a new tractor.



The most important factor responsible for the upswing in immigration in the post-war period has been, of course, the buoyant Canadian economy which has been capable of absorbing additional workers and which, day by day, has created opportunities for new Canadians. Under the Assisted Passage Plan, put into effect in 1951, immigrants with skills needed in Canada may have all or part of the cost of their passage advanced to them by the Federal Government on a repayment basis.

In the eight months ended Aug. 31, 1953, Canada received 112,627 immigrants, 13,402 fewer than in the corresponding period of 1952. In the 1953 period, British immigrants from overseas numbered 32,408, an 8-p.c. increase over the 1952 period. On the other hand, immigrants from the United States decreased by 3 p.c., the comparative totals being 5,794 in 1953 and 5,956 in 1952. Entries of North European races also declined from 50,590 to 48,812 in the same comparison, as did immigrants of all other races, numbering 25,613 in 1953 and 39,346 in 1952.

The responsibility of all immigration matters under the provisions of the Immigration Act (1952, c. 42) rests with the Minister of Citizenship and Immigration. A primary objective of the administration is to assist immigrants to become quickly and satisfactorily settled in the Canadian community and the Federal Government continues its interest in them through the work of several agencies.

Citizenship

All persons born in Canada are Canadian citizens and cannot be deprived of their citizenship unless they themselves take definite steps to acquire another nationality. Immigrants who are naturalized in Canada become

citizens and retain their citizenship so long as they remain domiciled in Canada or have authority for absence from Canada extended them and do not commit acts that result in revocation. A Canadian citizen holds also the status of a British subject.

Results of the 1951 Census show that 96.8 p.c. of all the people of Canada were Canadian citizens, 0.7 p.c. were citizens of other Commonwealth countries, 1.7 p.c. of European countries, 0.1 p.c. of Asiatic countries and 0.6 p.c. of other countries. In 1951, 98.0 p.c. of the persons of British Isles origin and 99.7 p.c. of those of French origin owed allegiance to Canada. Corresponding percentages for other European and Asiatic countries were 89.3 p.c. and 78.7 p.c., respectively.

An applicant for citizenship is required to have resided in Canada for five years. Besides showing those qualities of character that would lead him to be a hard-working law-abiding citizen, he must have an adequate knowledge of the English or French languages and also a knowledge of Canadian history, geography, form of government, and of the responsibilities of a good citizen.

The Department of Citizenship and Immigration administers the Canadian Citizenship Act, 1947, and provides leadership in the building of true citizenship among all Canadians. The Department co-operates with provincial departments of education and national, provincial and voluntary organizations in the development of citizenship programs designed to assist in the adjustment of newcomers to the Canadian way of life and to develop among established citizens an appreciation of the customs, culture and contributions of the new residents. During the year ended Mar. 31, 1953, certificates of Canadian citizenship were issued to 20,904 persons.

• *Vital Statistics*

The collection of vital statistics began in the older provinces with the registration of baptisms, marriages and burials by the ecclesiastical authorities. This practice was succeeded at varying dates by legislation requiring compulsory registration with the civil authorities in each province so that virtually every birth, marriage and death now occurring is known to be registered.

Parents are responsible for registering the births of their children, within a specified period, with the local registrar of the area in which the birth occurs. In Quebec and Newfoundland a birth is generally registered, both for civil and ecclesiastical purposes, by the ecclesiastical authorities at the time of baptism; in cases where the child is not baptised shortly after birth or will not be baptised, there is provision for registration with the civil authorities. Similarly, a marriage must be registered by the officiating clergyman or marriage commissioner, as the case may be. Registration of death must be completed by the undertaker or person in charge of disposing of the body on behalf of the next-of-kin, and by the attending physician, medical examiner or coroner before a burial permit can be issued by the local registrar. Every registration is filed permanently in the office of the Provincial Registrar.

Certificates issued to individuals from these records are almost essential for modern social and legal purposes. Birth certificates are generally required and accepted to prove or establish birthplace, birth date, citizenship, parentage



A new hospital breaks the sky-line of Montreal. This \$11,000,000 institution for sick and injured children will be the largest of its kind on the North American Continent.

and relationship to other members of the family, and are used for such purposes as the settlement of estates, identification, establishing legal dependency, eligibility for employment and pension and social welfare benefits. Similarly, death certificates are required for settling insurance claims, establishing right to remarry, tracing ancestry and so on.

By a co-operative arrangement with the provincial vital statistics authorities, under whose jurisdiction the registration of vital events has always remained, national statistics have been compiled since 1921 and there is hardly a facet of the country's economy, whether at the national, provincial, municipal or small-community level, that does not depend on accurate vital statistics. The Canadian registration system is regarded as one of the most complete and accurate in the world.

Births.—There have been several clear-cut cycles in the number of births recorded in Canada. From 1926 to 1930 there was a gradual upward trend from 232,750 to 243,495. This movement was reversed during the depression period until 1937 when the number reached its lowest point at 220,235. Since then the trend has been upward with a record total of 402,527 in 1952. Canada has always had a relatively high birth rate as compared with other

major countries of the world. From 1926 to 1930, it was about 24 births per 1,000 population, dropping to 20 in 1937. The influence of the War was reflected in a sharp increase from 21·5 in 1940 to a record 28·7 in 1947. Since that date the rate has averaged slightly over 27 but was 27·9 in 1952.

Wherever birth statistics have been collected, they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless it is so much of an accepted statistical fact that an accurate ratio of male to female births has become one of the criteria of complete registration. The numbers of males to every 1,000 females born in Canada in 1941-46 varied between 1,057 and 1,067 and in recent years has become stabilized at about 1,060.

Deaths.—The annual death rate in Canada has been less than 10 per 1,000 population over the past 20 years, which is fairly low in comparison with other countries, and set a record low of 8·9 in 1952, a reduction from 11·5 in 1921, despite an increase in the proportion of aged persons in the population. The age composition of the population at any point in time has a very great effect on the death rate. This accounts in the main for variations in crude rates among provinces from 8·5 to 12·5 for males and 6·5 to over 10 for females. Similarly, rates for rural and urban areas or among districts, even within a province, may vary widely. On the whole, death rates are about 20 p.c. higher for males than for females.

During the past 20 years, the average age at death has risen from about 45 to 55 for males and to 57 for females. If deaths of children under one year are excluded, the average age at death is now about 62 for males and 63 for females. Life expectancy at birth has accordingly risen from 60 for males and 62 for females to 65 and 69, respectively.

Of almost 126,000 deaths in 1952, arteriosclerotic and degenerative heart disease, which is associated with ageing, accounted for over 32,000. Other forms of heart disease accounted for 8,200 deaths, over 18,000 persons died from cancer, 13,300 from cerebral hæmorrhages and other vascular lesions and 8,200 from pneumonia, influenza and bronchitis while over 10,000 died from conditions associated with birth or early infancy. Although there has been a remarkable decline in recent years in deaths from tuberculosis, more than 2,400 persons died from that disease in 1952. Almost 3,000 died as a result of motor-vehicle accidents and 5,600 as a result of other accidents. More than 1,000 persons committed suicide.

Deaths of mothers due to childbirth have shown marked reduction in the past two decades and particularly since 1940. During the period 1926-30 an average of 57 mothers died for every 10,000 children born alive; in 1940 the ratio was 40 but by 1952 it had dropped four and one-half times to 9.

During recent years, the death rate for children under one year of age has shown substantial reduction, falling from 102 per 1,000 live births in 1926 to 60 in 1941 and 38 in 1952, the lowest in Canadian history. Of the 13,800 infants who died in 1952 before reaching their first birthday, three-fifths or almost 9,100 died within the first four weeks of life.

Natural Increase.—The natural increase is defined as the net gain added to the population by the difference between total births and deaths in a given period of time, and a natural increase rate is the difference between the birth

and death rates (similarly expressed per 1,000 population). During the period 1921-25, there was an annual average of 255,000 births and 105,000 deaths, an annual natural increase of 150,000. Because of declining birth rates, the natural increase dropped to an average of 123,000 during the depression years. With the increase in birth rates since that time and particularly during the war and post-war years, together with a steady or declining death rate, the natural increase has risen steadily each year from 123,000 in 1936-40 to over 276,000 in 1952, and the rate from 12.2 in 1941 to 19.2 in 1952. Canada has one of the highest natural-increase rates among the more highly developed countries of the world.

Marriages.—In 1929, marriages in Canada numbered 77,288, having shown a steady increase from 66,658 in 1926. The depression exercised a marked influence on marriages, causing a steep downward movement until 1932, when the number of marriages was 62,531. From 1933 to 1942 a fairly steady increase took place and the rate rose from 6 to almost 11 per 1,000 population. The peak was reached in 1946 with 134,088 marriages and a second peak occurred in 1952 with 128,308.

Births, Marriages and Deaths, 1926-52

(Exclusive of the Yukon and Northwest Territories)

Year	Births		Marriages		Deaths		Maternal Deaths	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ²
Av. 1926-30...	236,521	24.1	71,886	7.3	108,925	11.1	1,339	5.7
Av. 1931-35...	228,352	21.5	68,594	6.5	103,602	9.8	1,153	5.0
Av. 1936-40...	228,767	20.5	96,824	8.7	109,514	9.8	1,043	4.6
Av. 1941-45...	276,832	23.5	113,936	9.7	115,144	9.8	791	2.9
Av. 1946-50...	354,869	27.4	126,687	9.8	119,975	9.3	523	1.5
1948.....	347,307	27.1	123,314	9.6	119,384	9.3	510	1.5
1949 ³	366,139	27.3	123,877	9.2	124,047	9.2	536	1.5
1950.....	371,071	27.1	124,845	9.1	123,789	9.0	420	1.1
1951.....	380,101	27.2	128,230	9.2	125,454	9.0	405	1.1
1952.....	402,527	27.9	128,308	8.9	125,950	8.7	374	0.9

¹ Per 1,000 population.
from 1949.

² Per 1,000 live births.

³ Newfoundland included

Births, Marriages and Deaths, by Province, 1952

(Exclusive of the Yukon and Northwest Territories)

Province	Births		Marriages		Deaths		Maternal Deaths	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ²
Nfld.....	12,561	33.6	2,737	7.3	2,773	7.4	25	2.0
P.E.I.....	2,703	26.2	613	6.0	916	8.9	4	1.5
N.S.....	17,951	27.5	5,390	8.3	5,756	8.8	14	0.8
N.B.....	16,691	31.7	4,276	8.1	4,647	8.8	19	1.1
Que.....	126,416	30.3	35,374	8.5	34,854	8.4	155	1.2
Ont.....	123,891	26.0	45,251	9.5	44,402	9.3	100	0.8
Man.....	20,777	26.0	7,128	8.9	6,552	8.2	11	0.5
Sask.....	22,605	26.8	6,944	8.2	6,625	7.9	13	0.6
Alta.....	29,105	30.0	9,514	9.8	7,345	7.6	15	0.5
B.C.....	29,827	24.9	11,081	9.2	12,080	10.1	18	0.6
Canada.....	402,527	27.9	128,308	8.9	125,950	8.7	374	0.9

¹ Per 1,000 population.

² Per 1,000 live births.



His Excellency the Right Honourable Vincent Massey, C.H., Governor General of Canada, inspecting the Guard of Honour during the ceremonies at the opening of the 22nd Parliament, Nov 12, 1953.

Constitution and Government

THE Canadian Constitution and its present-day practice in the arts of democratic government are the product of complex and diverse forces and events that have shaped the evolutionary growth of political institutions in British North America during the past 190 years and witnessed its development from colony to nation. Despite the manifold complex problems inherent in the cultural and local loyalties of the populace, in the diverse regional structure of the economy, and in the application of British political inheritance to the New World environment, there has been a marked continuity in institutional democratic development from the several colonial legislatures of the latter part of the eighteenth century to the national Parliament of the present day. While the Canadian Constitution has its roots deep in British law, precedent and convention that have developed through the centuries, and has preserved the British monarchical forms and the intimate relationship of executive and legislature, it constitutes a distinctive experiment in parliamentary government in that for the first time in history it combines the Cabinet system of responsible government with a special adaptation of the United States principle of federalism.

While the British North America Act of 1867 and its amendments, together with certain other Imperial statutes and orders in council and a growing body of Canadian statutes and orders in council, constitute the 'written' basis of the Constitution, additional elements of vital significance are to be found in the 'unwritten' provisions of the Constitution. These embrace the judicial interpretations of both the British North America Acts and the ordinary statutes as well as a substantial portion of the common law, constitutional usages and principles of democratic government transplanted from the United Kingdom and adapted to the Canadian environment.

The provinces of Canada (now Ontario and Quebec), Nova Scotia and New Brunswick, on the expressed desire of their delegates, were federally united into "One Dominion under the Name of Canada" by the British North America Act, a statute of the United Kingdom Parliament effective July 1, 1867. Specific provisions in the Act for the admission of other parts of British North America were speedily implemented and by 1905 the new federalized state embraced nine provinces and two immense northern territories. The entry of Britain's oldest colony of Newfoundland into the union on Mar. 31, 1949, as Canada's tenth province, completed the territorial expansion of the new nation envisaged by the Fathers of Confederation.

The most significant feature of the federation under the BNA Act is the distribution of legislative powers between the Parliament of Canada and the provincial legislatures. Under the Act, the Parliament of Canada was endowed with authority "to make laws for the peace, order, and good government of Canada, in relation to all matters not coming within the classes of subjects . . . assigned exclusively to the legislatures of the provinces". For greater certainty, but in no way to restrict the generality of the foregoing terms, the Act enumerated 29 specific powers as being within the exclusive legislative authority of the Parliament of Canada. The specific powers enumerated

include: public debt; the raising of money by any mode of taxation; borrowing money; regulation of trade and commerce, navigation and shipping, banks and banking, patents, copyrights, weights and measures, railways and canals and telegraphs; defence; criminal law; and postal service.

Exclusive jurisdiction of the provincial legislatures includes: amendment of the provincial constitution except as regards the office of Lieutenant-Governor; borrowing money on provincial credit; direct taxes; hospitals and asylums; administration of justice in the province including the constitution, maintenance and organization of provincial courts; municipal government; property and civil rights; and generally all matters of a merely local or private concern in the province.

Concurrent legislative powers were granted to the Parliament of Canada and the provincial legislatures in respect of agriculture and immigration, with the provision that the federal law would override that of the province in the event of a conflict.

Because of the cultural dualism of the new nation, the provincial legislatures were endowed with exclusive authority in relation to education, subject to certain safeguards for any legal right or privilege in denominational schools possessed by any class of persons in the province at the time of union. For a like reason, the use of the English and the French languages was safeguarded, it being specifically provided that either language may be used in the debates of the Parliament of Canada and of the legislature of Quebec and in the courts of Canada and of Quebec; and that both languages shall be used in the respective records and journals and in the printed Acts of the Parliament of Canada and of the Legislature of Quebec.

Under the weight of such momentous events as two world wars and the great depression of the 1930's, the centralizing impulse in the Canadian federation was greatly strengthened. Possessed of unlimited powers of taxation under the Constitution, Parliament in the national interest entered, during the first world war, the field of direct taxes (to which the provinces are limited) and, during the second world war, made temporary financial arrangements with the provinces that provided compensatory annual payments in return for their relinquishment of income taxes, corporation taxes and succession duties. These arrangements have been carried into the post-war period in the form of tax agreements between the Federal Government and nine provinces—Quebec being the exception—and Parliament has assumed financial responsibility, in whole or in part, for such social welfare services as unemployment insurance, family allowances and old age security and assistance.

The British North America Act, 1867 (as stated above), gave the provinces the power to amend their own constitutions (except as regards the office of Lieutenant-Governor) but no such power was conferred on the Federal Parliament. The practice prevailed until 1949 of Parliament securing constitutional amendment by an Address from both Houses to His Majesty requesting passage of an amending Act through the Parliament of the United Kingdom. On Dec. 16, 1949, Royal Assent was given to an amendment to that section of the British North America Act describing the legislative jurisdiction of Parliament which added thereto the right to amend from time to time the Constitution of Canada, except in regard to matters assigned by the Act exclusively to the legislatures of the provinces, or rights and privileges already secured to the provincial governments and legislatures, or existing rights and



Sir John A. Macdonald



Alexander Mackenzie



Sir John Abbott



Sir John Thompson



Sir Mackenzie Bowell



Sir Charles Tupper



Sir Wilfrid Laurier



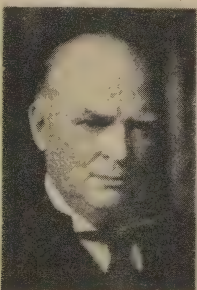
Sir Robert Borden



Arthur Meighen



W.L. Mackenzie King



R.B. Bennett



Louis St. Laurent

Prime Ministers of Canada since the time of Confederation. At upper left is the Rt. Hon. Sir John A. Macdonald, first Prime Minister of Canada, who took office on July 1, 1867, the date of Confederation. The present Prime Minister, the Rt. Hon. Louis S. St. Laurent, took office Nov. 15, 1948.

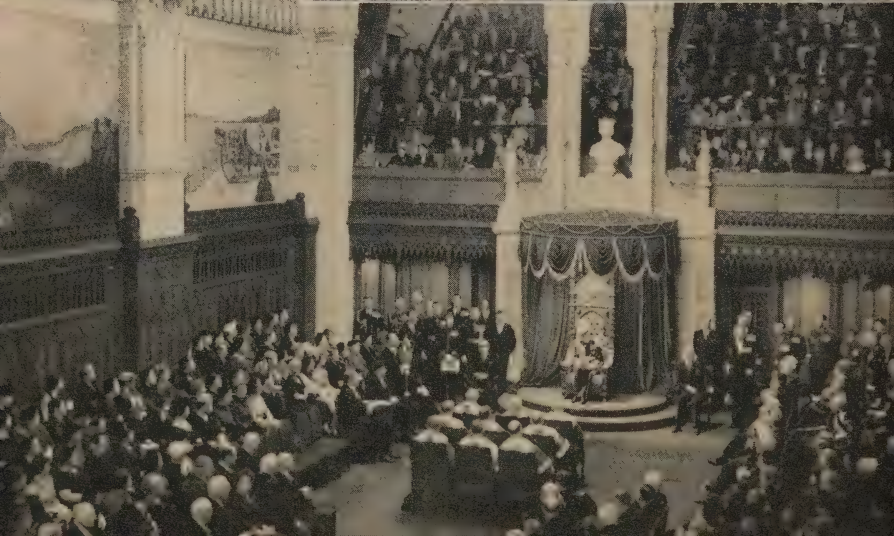
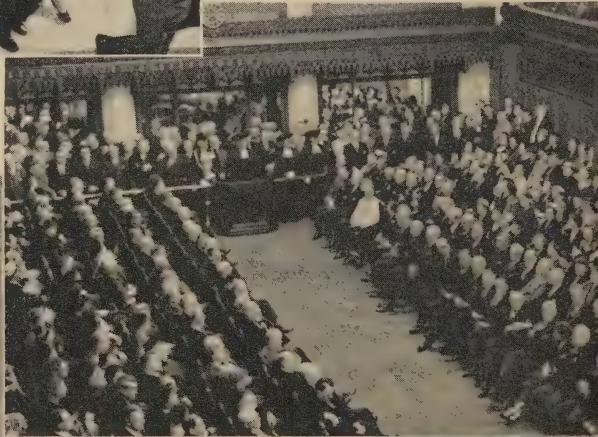
privileges in the field of education, or the use of the English and French languages. It was also provided that there should be a session of the Parliament of Canada at least once each year and that no House of Commons should normally continue for more than five years.

Yet, there still remained the question of devising a satisfactory procedure for amending in Canada, in the national interest, those provisions of the Canadian Constitution which concern both federal and provincial authorities. A constitutional conference of federal and provincial government officials was called in January 1950 at which certain recommendations were advanced for consideration. These recommendations had to do with the classification of provisions of the BNA Acts into groups concerning the Federal Parliament



The Opening of Parliament, Nov. 12, 1953.

The Members of the House of Commons are called to the Bar of the Senate, just inside the entrance to the Chamber, to hear the Speech from the Throne read by His Excellency the Governor General.



alone, the provincial legislatures alone, or the Federal Parliament and one or more or all the provinces. While there was considerable agreement among the provinces, they were not unanimous on all points and, although a further conference was held in September 1950, the situation at the beginning of 1954 was such that Canada must still resort to the United Kingdom Parliament for constitutional amendment involving matters of joint concern to the federal and provincial governments.

The Government of Canada, modelled on that of the United Kingdom, consists of three branches—the executive, the legislative and the judicial. The Crown is the legal point of reference for state authority and, indeed, the unifying symbol in all three spheres of power.

While Her Majesty Queen Elizabeth II is now “Queen of Canada”, her personal participation in the function of the Crown for Canada is necessarily reserved to such rare occasions as a royal visit or the periodic appointment of a personal representative on the advice of her Canadian Ministers. The Queen reigns but does not rule; as “she is the Queen of Canada because she is the Queen of the United Kingdom”,* Her Majesty symbolizes the continuity of the ancient traditions of the British constitutional monarchy and indeed of the law and custom of the Canadian Constitution.

The personal representative of the Queen in Canada is the Governor General, appointed by Her Majesty entirely on the advice of the Prime Minister of Canada and usually for a term of five years. Under new Letters Patent issued under the Great Seal of Canada, effective Oct. 1, 1947, he is empowered to exercise, on the advice of the Queen's Privy Council for Canada (a committee of which constitutes the Ministry or Cabinet), all the royal powers and authorities relating to Canada. He receives no instructions from Westminster and makes no report thereto but rather exercises such formal authority as summoning, proroguing and dissolving Parliament and assenting to Bills in the Queen's name. Canada's present Governor General, the Right Honourable Vincent Massey, C.H., is the first Canadian to hold this high office. He was appointed on Jan. 24 and assumed office on Feb. 28, 1952.

The active Canadian executive authority for controlling the exercise of the powers of the Crown resides in the Cabinet or Ministry composed of Members of Parliament, who hold office so long as they possess the confidence of the elected representatives of the people. Although Parliament consists of the Queen, the Senate and the House of Commons, it is in the Commons that the basic features of ministerial responsibility operate.

A new House of Commons is elected at least once every five years under an adult franchise conferred upon Canadian citizens or British subjects, male and female, who have been resident in Canada for twelve months prior to polling day. A readjustment of representation follows each decennial Census of Canada. Representation of the various provinces returned in the General Election of Aug. 10, 1953, is as follows:—

Newfoundland.....	7	Alberta.....	17
Prince Edward Island.....	4	British Columbia.....	22
Nova Scotia.....	12	Yukon Territory.....	1
New Brunswick.....	10	Mackenzie District, Northwest Territories.....	1
Quebec.....	75		
Ontario.....	85		
Manitoba.....	14	TOTAL.....	265
Saskatchewan.....	17		

* The Prime Minister of Canada, speaking in the House of Commons, Feb. 3, 1953, on the Royal Style and Title for use in Canada.

Constitutional convention requires that the leader of the national party that has won a majority of the seats in a newly elected House of Commons shall be asked by the Governor General to form an Administration. The party standing (173 Liberals, 50 Progressive Conservatives, 23 Co-operative Commonwealth Federation, 15 Social Credit, 3 Independents and one vacancy) at the opening of the 22nd Parliament on Nov. 12, 1953, being a reflection of public opinion as registered in the General Election, ensured that the national leader of the Liberal Party and his colleagues would constitute the Ministry of the day and hence be responsible for determining all important policies and securing the passage of such legislation, financial measures and administrative provisions as their supporters might approve.

The Canadian Ministry or Cabinet, as at Jan. 1, 1954

Name	Office
Right Hon. Louis Stephen St. Laurent.....	Prime Minister and President of the Privy Council.
Right Hon. Clarence Decatur Howe.....	Minister of Trade and Commerce and Minister of Defence Production.
Right Hon. James Garfield Gardiner.....	Minister of Agriculture.
Hon. Brooke Claxton.....	Minister of National Defence.
Hon. Lionel Chevrier.....	Minister of Transport.
Hon. Paul Joseph James Martin.....	Minister of National Health and Welfare.
Hon. Douglas Charles Abbott.....	Minister of Finance and Receiver General.
Hon. James J. McCann.....	Minister of National Revenue.
Hon. Milton Fowler Gregg.....	Minister of Labour.
Hon. Lester Bowles Pearson.....	Secretary of State for External Affairs.
Hon. Stuart Sinclair Garson.....	Minister of Justice and Attorney General.
Hon. Robert Henry Winters.....	Minister of Public Works.
Hon. Hugues Lapointe.....	Minister of Veterans Affairs.
Hon. Walter Edward Harris.....	Minister of Citizenship and Immigration.
Hon. George Prudham.....	Minister of Mines and Technical Surveys.
Hon. Alcide Côté.....	Postmaster General.
Hon. James Sinclair.....	Minister of Fisheries.
Hon. Ralph Osborne Campney.....	Solicitor General and Associate Minister of National Defence.
Hon. William Ross Macdonald.....	Leader of the Government in the Senate.
Hon. John Whitney Pickersgill.....	Secretary of State.
Hon. Jean Lesage.....	Minister of Northern Affairs and National Resources.

The moment the Cabinet loses the confidence of the Commons it must resign or advise the Governor General to dissolve Parliament and call a general election even before the maximum five-year term expires. Although appointed by the Governor General, the Cabinet members are selected by the Prime Minister from among his party colleagues in such manner as to ensure as far as possible representation of the several regions of the country and its principal cultural and religious and social interests. The practice arose during World War II of appointing (from among the Members of the House of Commons) Parliamentary Assistants to ease the excessive burdens of certain Cabinet Ministers. This practice was extended after the War and at Jan. 1, 1954, included Parliamentary Assistants for twelve of the Ministers.

The Senate or Upper House of the Parliament of Canada shares with the House of Commons the responsibility for the enactment of all federal legislation in that Bills must pass both Houses before receiving Royal Assent through the Governor General. Yet the influence of the Senate on legislation is immeasurably less than that of the Commons in which most public Bills are introduced by the Administration and to which the latter is responsible. The most striking evidence of this fact is that the British North America Act

Confederation Hall inside the entrance to the Centre Block of the Parliament Buildings. Around the soaring arches are stone carvings representing many aspects of Canadian life.



reserves to the elected House and to the Government of the day the origination of any Bill for the expenditure of any public money or the imposition of any tax. Nonetheless, the Senate has the power to perform a valuable service to the nation in amending and delaying the passage of measures that might result from sudden shifts in public opinion or party strength. While it must yield to the will of the elected House, the Senate may initiate measures overlooked by a busy Commons and carry on significant committee work on various matters of state.

The Canadian Senators are summoned for life by the Governor General, on the nomination of the Prime Minister, with equality of representation for four regional divisions. The 1954 representation in the Senate by divisions and provinces is as follows:—

Ontario.....	24	Western Provinces.....	24
Quebec.....	24	Manitoba.....	6
Atlantic Provinces.....	30	British Columbia.....	6
Nova Scotia.....	10	Alberta.....	6
New Brunswick.....	10	Saskatchewan.....	6
Prince Edward Island.....	4		
Newfoundland.....	6	TOTAL.....	102

Yukon Territory and the Northwest Territories lack representation at present in the Senate. The party standing in the Senate at the opening of the 22nd Parliament was 81 Liberals and 8 Progressive Conservatives, and 13 vacancies. The marked predominance in numbers of the Government



NEWFOUNDLAND



PRINCE EDWARD ISLAND



NOVA SCOTIA



NEW BRUNSWICK



QUEBEC

BUILDINGS



ONTARIO



MANITOBA



SASKATCHEW



ALBERTA



BRITISH COLUM



On Oct. 12, 1953, Canadians paid tribute to the memory of one of their most honoured statesmen, the Rt. Hon. Sir Wilfrid Laurier, leader of the Government from July 1896 to October 1911, who played a significant part in moulding the Canadian nation. A bronze statue was unveiled in Dominion Square, Montreal, by the Rt. Hon. Louis S. St. Laurent, Prime Minister of Canada. Looking on is Emile Brunet, sculptor who designed the monument.

group over the Opposition group arises from dual causes—the practice of the Prime Minister of the day making senatorial appointments from among his party members, and the 19-year period of uninterrupted Liberal administration at Ottawa.

While the Ministers of the Crown carry the political responsibilities of their respective departments, the Federal Civil Service forms the staffs of the twenty departments and of the various boards, commissions, bureaux and other agencies of the Government. The day-to-day administration of a department is handled by a permanent head, usually known as Deputy Minister but in the Department of External Affairs and of the Secretary of State he is called Under Secretary. The great majority of the civil servants are recruited, classified and promoted by the Civil Service Commission of Canada whose prime objective, under the Civil Service Act of 1918, is to create a career service based on merit.

Similar political institutions and constitutional usages operate in the governments of the ten provinces as in that of the nation as a whole. In each province the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council (that is, by the Governor General on the advice of the Cabinet), usually for a term of five years. The powers of the Lieutenant-Governor in the provincial sphere are the same as those of the Governor General in the federal sphere, except that in certain circumstances

the Governor General may disallow provincial Bills while a Lieutenant-Governor may reserve Bills on instructions from the Governor General. In all other respects the Lieutenant-Governor acts on the advice of the provincial Ministry or Executive Council, which is responsible to the Legislature and holds office only so long as it enjoys the confidence of that body.

The Legislature of each of the provinces comprises, in addition to the Lieutenant-Governor, an elected Legislative Assembly and, in the case of Quebec only, a Legislative Council of 24 members appointed for life by the Lieutenant-Governor in Council. Generally speaking, every adult 21 years of age or over who is a Canadian citizen or a British subject and meets varying resident requirements of the provinces is entitled to be registered as a voter. Recently the provincial franchise was extended to persons in Saskatchewan, Alberta and British Columbia at the age of 18, 19 and 19 years, respectively. The conventions of Cabinet government operate in the Legislative Assembly of each of the provinces as in the House of Commons at Ottawa.

Provincial Premiers and Administrations, by Province, Jan. 1, 1954

Province	Premier	Government	Total Members	Members of Govern- ing Party	Members of Leading Opposition Party
			No.	No.	No.
Nfld....	Hon. J. R. Smallwood.....	Liberal.....	28	22	4 (PC)
P.E.I....	Hon. Alexander W. Matheson	Liberal.....	30	24	6 (PC)
N.S.....	Hon. Angus L. Macdonald...	Liberal.....	37	23	12 (PC)
N.B.....	Hon. Hugh John Flemming..	Progressive Conser- vative	52	36	16 (L)
Quebec..	Hon. Maurice L. Duplessis..	Union Nationale...	90	66	23 (L)
Ont.....	Hon. Leslie M. Frost.....	Progressive Conser- vative	91	79	8 (L)
Man.....	Hon. Douglas L. Campbell..	Liberal-Progressive	57	32	12 (PC)
Sask.....	Hon T. C. Douglas.....	Co-operative Com- monwealth Fede- ration	53	42	11 (L)
Alta.....	Hon. Ernest C. Manning....	Social Credit.....	61	52	4 (L)
B.C.....	Hon. W. A. C. Bennett.....	Social Credit.....	48	28	14 (CCF)

The vast northern and sparsely populated regions of Canada lying outside the ten provinces and comprising Yukon Territory and the Northwest Territories have attained both elected representation in the House of Commons and a measure of local self-government. The local Government of Yukon Territory is composed of a chief executive, styled Commissioner and appointed by the Federal Government, and a locally elected Legislative Council of five members. The Commissioner administers the local government at Whitehorse, under instructions from the Federal Government or the Minister of Northern Affairs and National Resources, while the Commissioner in Council has power to make ordinances dealing generally with all matters of local nature in the Territory.

The government of the Northwest Territories is vested in a Commissioner (who is Deputy Minister of the Department of Northern Affairs and National Resources) assisted by a Council of eight members of whom three are elected by popular franchise in the Territories and five are appointed by the Federal Government from among federal officials at Ottawa. The Commissioner in Council makes ordinances relating to matters designated by

the Northwest Territories Act, while the administration is carried on by the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources.

The Canadian judiciary, the third element of government, interprets the law and administers justice. Under the British North America Act the legislature of each province may exclusively make laws in relation to "the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction and including procedure in civil matters in those courts". The Act places "the criminal law, except the constitution of courts of criminal jurisdiction, but including the procedure in criminal matters" exclusively within the legislative competence of the Federal Parliament.

Judges of the superior, district and county courts in each province, except those of the courts of probate in Nova Scotia and New Brunswick, are appointed by the Governor General in Council and their salaries, allowances and pensions are fixed and paid by the Parliament of Canada. The high standing and independence of the Canadian judiciary may be attributed not only to the efforts of the Government to appoint to the Bench men of ability and integrity, but also to the guarantee of security of tenure during good behaviour and the difficult method of removal by joint address of the Senate and the House of Commons.

The Supreme Court of Canada and the Exchequer Court were established in 1875 under the BNA Act. The Chief Justice and the eight puisne judges of the Supreme Court and the president and four puisne judges of the Exchequer Court are appointed by the Governor General in Council; they hold office during good behaviour and until attaining the age of 75 years but are removable by the Governor General on address of the Senate and the House of Commons. The Supreme Court sits at Ottawa and exercises general appellate jurisdiction throughout the nation in civil and criminal cases. It is also required to advise upon questions referred to it by the Governor General in Council. The Exchequer Court also sits at Ottawa and at other centres as required, and its jurisdiction extends to cases embracing claims made by or against the Crown in the right of Canada. It serves also as a Court of Admiralty throughout Canada.

With the abolition of appeals from Canada to the Judicial Committee of the Privy Council at Westminster with respect to criminal cases (1933) and civil cases (1949), the judgment of the Supreme Court of Canada in all cases is now final and conclusive.

• *Canada's External Relations in 1953*

Canada's reliance on the principle of collective security and the dependence of her economy on foreign trade resulted in increased co-operation with other nations in 1953 in efforts to solve problems threatening world peace and hampering high levels of international trade.

In 1953, Canada was represented at 154 international conferences and meetings, and a number of distinguished visitors came to Ottawa as guests of the Canadian Government. These included United States President Dwight D. Eisenhower, who returned a visit made to Washington earlier in the year by the Canadian Prime Minister, the Rt. Hon. Louis S. St. Laurent. Other visitors included Lord Ismay, Secretary-General of NATO; M. René

Mayer, President of the Council of Ministers, M. Georges Bidault, Foreign Minister, and M. Maurice Bourges-Maunoury, Minister of Finance of France; Madam Vijaya Lakshmi Pandit, Chairman of the Indian Delegation to the General Assembly of the United Nations; the Crown Prince of Japan; Dr. Konrad Adenauer, Chancellor and Foreign Minister of the Federal Republic of Germany; the Rt. Hon. S. G. Holland, Prime Minister of New Zealand; Dr. Sarvepalli Radhakrishnan, Vice President of India; and Mr. Dag Hammarskjöld, Secretary General of the United Nations.

As in previous years, external policies of the Canadian Government in 1953 were influenced by Canada's friendship and economic ties with the United States and by her associations with other nations in the Commonwealth, the United Nations and the North Atlantic Treaty Organization.

In an address to the Canadian Parliament on Nov. 14, President Eisenhower presented his views on questions of special interest in Canadian-United States relationships. He said there was a growing realization in the

*The Rt. Hon. Chief Justice Thibau-
deau Rinfret (centre front) and the eight
puisne judges who comprise the Su-
preme Court of Canada. Judgment
of this Court in all cases is final and
conclusive.*

*The Supreme Court building at
Ottawa.*





Directors of the Canadian and United States Chambers of Commerce held their first joint session at Montreal. Businessmen from 25 States and 10 Provinces examined assets and liabilities in terms of geography and history, peace and war, transportation and energy trade and economics. For Canadians and Americans it was an exercise in knowledge and understanding.

United States that free nations could not expand their productive and economic strength without a high level of international trade. The President declared that the joint development and use of the St. Lawrence-Great Lakes waterway was "inevitable, sure and certain". He predicted that Canada and the United States would succeed in establishing adequate defence of the continent "without whittling our pledges to Western Europe or forgetting our friends in the Pacific . . .".

In Commonwealth affairs the outstanding event of 1953 was the Coronation of Queen Elizabeth on June 2, which brought together representatives of the parliaments of the Commonwealth and of the legislatures of colonial territories from all over the world. Canada's official delegation included the Prime Minister and other Cabinet Ministers, Leaders of the Opposition in the House of Commons and the Senate, Speakers of the Senate and House of Commons, the Chief Justice, and representatives of Canadian ex-servicemen's organizations. Following the Coronation, Commonwealth Prime Ministers held a series of meetings at which they reviewed the international situation. These discussions, in the words of the official communique, "once more demonstrated the concord which exists between all the governments and peoples of the Commonwealth, despite their varying interests and circumstances and their approach to the major problems of the world today". Towards the end of the year preparations were undertaken at Ottawa for a tour to be made by the Prime Minister early in 1954 which would include visits to the Asian members of the Commonwealth.

The seventh session of the General Assembly of the United Nations, which commenced its work in October 1952 and did not adjourn finally until August 1953, will be remembered as the session which saw the conclusion of the Korean Armistice and, by Canadians in particular, as the session which met under the Presidency of Canada's Secretary of State for External Affairs, the Hon. L. B. Pearson. The eighth session of the General Assembly convened in September 1953 against the background of the slow implementation of the terms of the Korean Armistice, and continued to meet as progress was being made towards the repatriation of prisoners of war by the Neutral Nations Repatriation Commission, and as the United Nations attempted to arrange for a political conference to bring about the Korean peace.

The eighth session recessed in December with the repatriation of prisoners of war still not completed, and without agreement having been reached at Panmunjon on the Political Conference provided for in the Armistice Agreement.

During 1953 many of the decisions and plans made since the North Atlantic Treaty was signed in 1949 began to bear fruit in the form of the increased strength and effectiveness of the NATO forces. It became apparent that the North Atlantic Treaty Organization had succeeded in developing efficient machinery and workmanlike procedures for dealing with the wide range of important problems involved in collective action to deter aggression and strengthen the foundations upon which lasting peace must rest.

For the majority of NATO countries, the proportion of total output of the economy devoted to defence was only reaching a peak in 1953. In that year the Alliance as a whole spent more than double the expenditure on defence in 1951; in the same period the forces under NATO command approximately doubled and the gain in their effectiveness was greater still. Canada made a noteworthy contribution to this increase by completing, ahead of schedule, its commitment to station twelve jet fighter squadrons in Europe. The 27th Canadian Infantry Brigade Group which had been stationed in Germany since 1952 was replaced by the 1st Canadian Infantry Brigade Group. The Organization continued to give attention to co-operation in non-military fields under Article 2 of the North Atlantic Treaty.

In 1953, as in previous years, Canada was represented at all important international conferences concerned with economic affairs, including those of the Commonwealth, the Colombo Plan, the United Nations and its Specialized Agencies, the Organization for European Economic Co-operation and the General Agreement on Tariffs and Trade. With the improvement of the balance of payments position of a number of countries, increasing international attention was directed in 1953 to the possibility, and the problems, of moving towards a freer system of trade and the convertibility of currencies. These developments were followed with close attention by the Canadian Government.

Two west-coast combination-type fishing vessels, together with a trawler, built in Canada, were sent by the Federal Government to Ceylon under the supervision of British Columbia fishermen. Canada is assisting in surveying the fishing potential of the waters surrounding Ceylon and thus in increasing the food supplies of the island.



During the year substantial progress was made in the negotiation of an agreement for the exchange of "most-favoured-nation" treatment with Japan. At the eighth session of the Contracting Parties of the General Agreement on Tariffs and Trade, Mr. L. D. Wilgress, of the Canadian delegation, was elected Chairman for 1954. In November 1953, a Joint Canadian-United States Committee on Trade and Economic Affairs was established. This Committee will be composed of Ministers of the two Governments and will discuss economic questions of common concern.

As in the two preceding years, \$25,400,000 was made available in 1953 for economic technical assistance to the under-developed countries of South and Southeast Asia under the Colombo Plan. At the meeting of the Consultative Committee of the Colombo Plan at New Delhi in October 1953, the Hon. James Sinclair, leader of the Canadian delegation, extended an invitation to the Committee to come to Canada in 1954. The meeting will be held at Ottawa, probably in the autumn.

As a reflection of its increasing responsibilities for providing the Government with information and advice on external relations and for carrying out the Government's external policies, the Department of External Affairs continued to expand its personnel and establishments abroad. During 1953 Canadian diplomatic missions were opened in Uruguay, Venezuela, Colombia, Austria, Indonesia and Spain; a High Commissioner's office was established at Ceylon and Consulates General were opened in the United States at Seattle and Los Angeles. At the end of 1953 Canada was represented abroad by the following posts:—

Embassies (24)—

Argentina
Belgium
Brazil
Chile
Colombia
Cuba
France
Germany
Greece
Indonesia
Ireland
Italy
Japan
Mexico
The Netherlands
Peru
Spain
Switzerland
Turkey
U.S.S.R.
United States
Uruguay
Venezuela
Yugoslavia

Legations (8)—

Austria
Czechoslovakia
Denmark
Finland
Norway
Poland
Portugal
Sweden

Offices of High Commissioners (7)—

Australia
Ceylon
India
New Zealand
Pakistan
South Africa
United Kingdom

Consulates General or Consulates (11)—

Brazil
São Paulo
Philippines
Manila
United States
Boston
Chicago
Detroit
Los Angeles
New Orleans
New York
Portland, Me.
San Francisco
Seattle

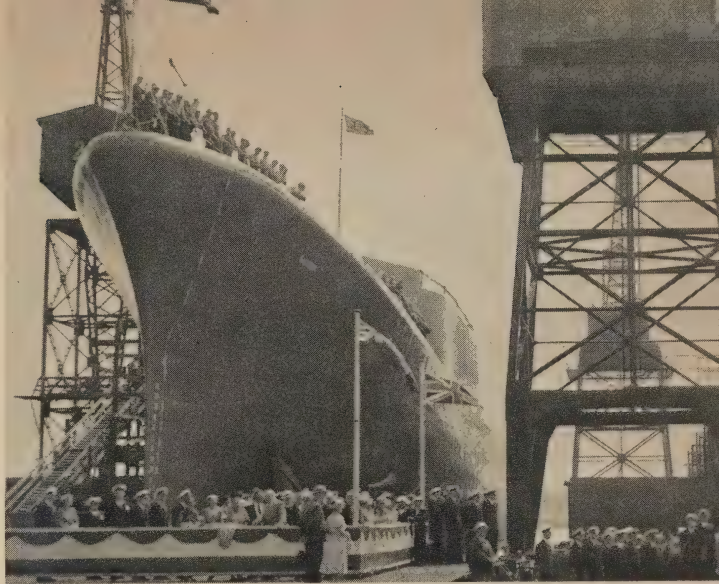
Permanent Delegations and Missions (4)—

Berlin (Mil. Mission)
Geneva (UN)
New York (UN)
Paris (NAC and COEE)

Canada does not maintain posts in Iceland and Luxembourg, but the Minister to Norway is accredited to Iceland and the Ambassador to Belgium is accredited to Luxembourg.

The Department of External Affairs assists other Departments of Government in their dealings abroad and co-ordinates their activities in other

Canadian shipyards are working on large defence orders for escort vessels, mine-sweepers and harbour craft. The first of a number of specialized anti-submarine escorts was launched at Halifax in July 1953.



countries. The Department of Trade and Commerce, which stimulates the expansion of Canada's external trade through its Foreign Trade Service, co-operates closely with the Department of External Affairs in its activities abroad. Canadian diplomatic and trade representatives work side by side abroad and in many places share the same office establishment. At some points where there is no diplomatic representative, the Trade Officer has consular status. In 1953 special emphasis continued to be placed on the further development of trade in Latin America. Early in the year the Minister of Trade and Commerce, the Rt. Hon. C. D. Howe, led a goodwill and trade mission composed of Canadian businessmen and government advisers to nine Latin American countries.

Pakistani Civil Servants receiving instruction on the organization and methods of the Civil Service Commission of Canada.





Each child's birthright is a foundation of knowledge and a training for useful living. Some 2,725,000 Canadian children made their way to elementary and secondary public schools early in September to start the 1953-54 school year.

Education

Scientific Research

• Education

PUBLIC education in Canada, except for that of the native Indians, is under the jurisdiction of the provinces. While each provincial system varies from the others in particulars, the general plan is the same for all except Quebec where there are two systems, the Roman Catholic which has developed in the French tradition, and the Protestant which is of the English tradition of the other provinces. The public school systems of Ontario, Saskatchewan and Alberta include separate schools, mostly Roman Catholic. In Newfoundland the schools are mostly denominational—Church of England, Roman Catholic, United Church, Salvation Army and Seventh Day Adventist.

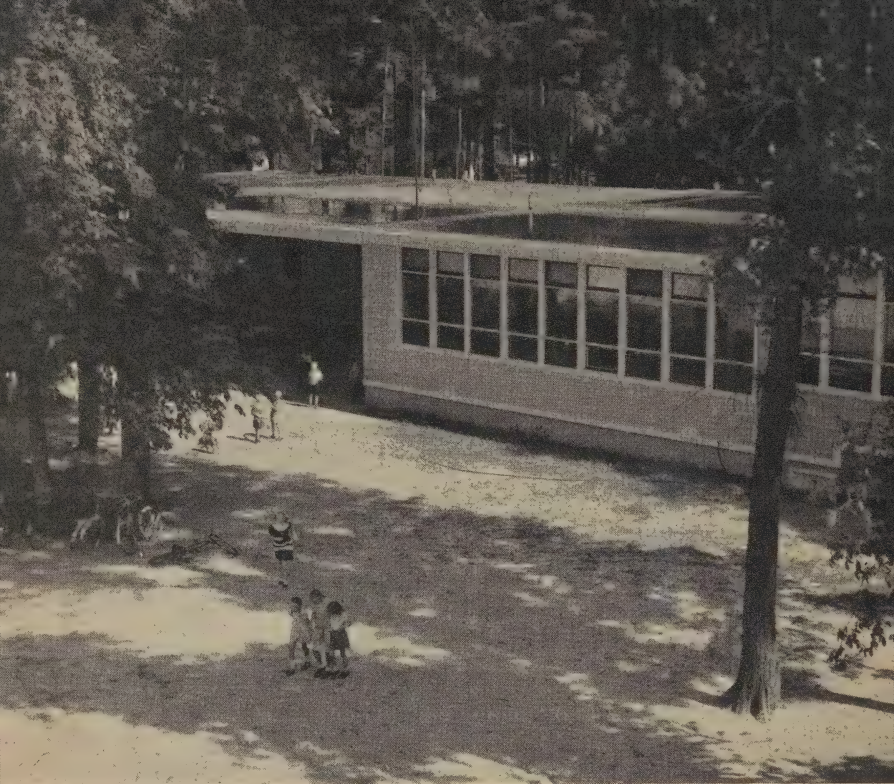
In each province, except Quebec, education is administered by a separate department of government headed by a Minister of Education who, as a member of the Ministry, is responsible to the Legislative Assembly and to the people. In Quebec education comes under the jurisdiction of the Provincial Secretary. The Minister, through his department, is responsible for the administration and enforcement of all statutes and regulations concerned with the schools, including training and licensing of teachers, provision of courses of study, authorization of textbooks, enforcement of attendance laws and the apportionment of provincial grants to schools. Local administration is in the hands of school boards elected by the ratepayers or, in some cases, appointed by the local municipal council. The local boards hire the teachers and operate the elementary and secondary schools.

All teacher-training schools for elementary teachers, except those in Quebec, are operated by the provincial governments. Most provinces, too, operate schools for the blind and the deaf as well as certain special schools at secondary or junior college level, such as technical institutes, schools of fisheries, agriculture, forestry, mining, etc.

The Government of Canada is responsible for the education of Indians and Eskimos. Within the provinces, it operates a considerable number of day schools for Indian children and assists in the operation of residential schools conducted by religious denominations. Day schools are also provided for white, Indian and Eskimo children in the Yukon and Northwest Territories and assistance is given to mission schools in those areas. Grants are paid to a few public schools in the larger settlements of the Territories.

Elementary and Secondary Education.—In the systems of the English tradition the elementary school includes the first eight grades. Children commonly begin at age six or seven and complete the elementary grades at age 13 to 15. Subjects of study include reading, arithmetic, writing, social studies and health, together with arts and crafts, home economics, music, etc.

The secondary school course extends over four years, from grades IX to XII (five years to grade XIII in British Columbia and Ontario). High-school



A new public school in a new community, typical of hundreds that have been built since the end of the War to accommodate the rapidly increasing number of school-age children.

graduation or junior matriculation is at the end of grade XI or XII. Grade XII (or XIII) is equivalent to first year university, but standing in at least some subjects of this grade is required for entrance to certain universities. In some provinces grades VII to IX are designated intermediate or junior high and given a broadened curriculum.

A pupil entering secondary school may follow an academic course—usually composed of literature, history, mathematics, science and a foreign language—leading to the university, the teacher-training or the nurse-training school, or he may take an industrial, commercial or agricultural course leading to a relative occupation.

Under the Roman Catholic system of Quebec, seven grades comprise the primary division. Thereafter a boy may enter a classical college for an eight-year course leading to university, or pass through any one of five sections of the complementary and superior divisions—general, scientific, industrial, commercial, agricultural. The first three are five-year courses, the others shorter. The scientific and commercial courses lead to the professional schools and the general courses to teacher-training schools; the other courses are terminal.

At the end of the primary division a girl has the choice of four sections: (1) a general five-year course leading to teacher-training school; (2) a three-year household science course; (3) a four-year commercial course; or (4) a two-year domestic arts course; or she may enter a classical college leading to university.

Elementary school enrolment is now showing the effects of the higher birth rates of the war and early post-war years. Grades above Grade VIII will begin to feel these effects between 1953 and 1955 and by 1965 secondary-school enrolment may be close to double the present total. Other factors are also operating to increase enrolment, including the introduction of family allowances in 1945 which has been instrumental in improving attendance and in keeping pupils in school to the legal age limit; increased emphasis on the holding power of schools; increased transportation facilities at public expense; the building of dormitories in some provinces; the larger unit of administration; the establishment of junior high schools and composite schools; and the wave of post-war immigration. The average daily attendance in publicly controlled elementary and secondary schools of the ten provinces was 2,163,317 in the academic year 1950-51, compared with 2,016,305 in 1948-49 and 1,804,294 in 1944-45. The teaching staff comprised 23,995 men and 65,539 women, a total of 89,534.

Higher Education.—There were 235 institutions of higher education in Canada in 1951-52, including universities, junior colleges, technical and professional institutions and independent theological colleges. Total full-time university-grade enrolment amounted to 63,499 individuals for the session, 3,650 of these being post-graduate students. With the inclusion of part-time students, those taking extramural and short courses and those taking courses not of university grade, the complete enrolment in these institutions was 156,157. The full-time university-grade enrolment continued to decline from the peak of 83,485 for 1947-48 but remained well above the average of 35,800 for the immediate pre-war years. It is expected that the lower birth rate during the depression in the 1930's will result in a slight drop in enrolment for the next few years to perhaps 60,000 full-time students.

high school chemistry class. Since a large proportion of pupils complete their schooling at the age of sixteen, the high school curricula are arranged to give well-rounded courses of study from which these students may emerge with a sense of accomplishment.



A total of 13,288 bachelor and first professional degrees, 3,305 diplomas and certificates, 1,601 masterships and licences, 234 earned doctorates and 222 honorary doctorates were awarded during the session. The Faculties of Arts and Science (6,460), Engineering (1,770), Medicine (801), Commerce (663), Education (586), Law (556), Pharmacy (371), Agriculture (332), and Home Economics (256), accounted for the bulk of the bachelor and first professional degrees.

Institutions representing 80 p.c. of the total full-time enrolment reported income amounting to \$48,000,000. Of this total, 52 p.c. was from government grants, 30 p.c. from student fees, 7 p.c. from endowments and investments and the remaining 11 p.c. from other sources. The total amount represented income (and expenditure) of some \$950 for each full-time student. The 1951-52 session saw the introduction by the Federal Government of the payment of grants to many of the institutions of higher education, as recommended by the Royal Commission on National Development in the Arts, Letters and Sciences. Payments totalling \$6,991,950 were made on the basis of 50 cents per head of population in each province, with eligible institutions receiving their share of the provincial total in proportion to the number of full-time university-grade students in attendance in courses leading to a degree. Coming at a time when university expenditures were increasing so much that there was danger of the university authorities raising student fees to prohibitive levels, the grants were instrumental in maintaining or improving staff salaries and in vastly expanding fields of research and graduate studies. Median salaries for instructional staff members in 1951-52 were \$7,271 for deans, \$6,313 for full professors, \$5,227 for associate professors, \$4,381 for assistant professors and \$3,329 for instructors and lecturers. Instruction staff totalled 10,756 persons, with 4,807 of them being on part-time. This is exclusive of teachers in pre-matriculation departments of the institutions.

Of the total of 63,499 full-time university-grade students, 3,012 came from outside of Canada and more than half of these outside students (1,515) were from the United States.



A university student teaching for Frontier College, conducting a discussion group of off-doors for road construction workers. Frontier College brings constructive leadership and opportunity for study migratory workers living in isolated camps.



University of Manitoba campus, Winnipeg, Man.

Summary Statistics of Education, Academic Year 1950-51

Type of School or Course	Institutions	Pupils	Teachers	Expenditures 1950
	No.	No.	No.	\$'000
Publicly Controlled Schools—				
Ordinary and technical day schools	30,987	2,392,438	89,534	303,848
Evening classes.....	...	122,093	...	1,107 ¹
Correspondence courses.....	10 ²	21,538	...	890
Special schools (blind and deaf)...	12	1,988	260	1,843
Teacher-Training Schools—				
Full-time course.....	112	10,311	778	3,860
Accelerated course.....	...	1,192	...	...
Privately Controlled Schools—				
Ordinary academic schools.....	839	113,409	6,554	16,371
Business Training Schools—				
Day classes.....	230	17,939	818	2,893
Evening classes.....	...	14,278	...	...
Indian schools and education in the Territories.....	457	27,695	762	7,584
Universities and Colleges—				
Preparatory courses.....	...	29,359	1,539	...
Courses of university standard...	235	93,495	9,989 ³	45,600
Other courses.....	...	34,164	...	...
Expenditures Not Included Above—				
Provincial Government.....	...	...	...	56,002 ⁴
Federal Government.....	...	...	...	14,141 ⁵
Totals.....	32,872	2,879,899	110,234	454,139

¹ British Columbia and Ontario only; included with day schools in other provinces.
² Not included in the total; correspondence courses are provided by the provincial Departments of Education.
³ Includes 4,450 part-time instructors.
⁴ Total gross expenditure on education by provincial governments was \$182,560,000 including grants to school boards amounting to \$121,487,000, of which \$2,642,000 was provided by the Federal Government.
⁵ Total expenditure on education by the Federal Government was \$24,108,000.

Current Developments.—Among the current developments in Canadian education, at least two are of considerable interest and importance. One is the problem of financing public elementary and secondary education; the other is the Kellog Project to assist school superintendents in meeting some of the pressing problems of leadership and supervision.

The problem of financing elementary and secondary education is becoming serious—so serious that in four provinces a Royal Commission has been appointed to study the situation. Natural increase and immigration are causing an unprecedented growth in school enrolment and, in addition, the proportion of pupils remaining in school beyond the legal leaving age is steadily increasing. While additional classrooms and teachers are required to provide for the increase, the situation is further aggravated by the shifting of the population from rural areas to urban centres and by the very rapid development of some centres. There is no end in sight to this expansion.

The costs of education are rising. Building costs are going up, teachers' salaries and other operating costs are increasing and there is a tendency to spend more on instructional supplies and equipment. At the same time, the costs of other municipal services are increasing. As a result of this situation there are suggestions that the basis of taxation, now falling mainly on property, for school and municipal purposes should be broadened. Municipalities and school boards advocate the provincial governments providing still larger grants to lighten the burdens of individual municipalities. And there is a rising demand in many quarters for federal aid to education in the form of unconditional grants to the provinces.

A significant development of the past decade or two has been the growth of the larger unit of local administration. But there is no organized body of knowledge based on Canadian experience from which administrators may draw for guidance and precedent. The Kellog Project is designed to remedy this situation by developing principles and procedures in local administration and techniques and skills in the solution of problems and also to stimulate the exchange of experience and ideas between widely separated parts of the country. Started in 1952, the project is planned to extend over five years with an estimated expenditure of over \$230,000. It is being carried out by the Canadian Education Association which includes in its directorate representatives of the provincial Departments of Education, the Canadian Teachers' Federation, the Canadian School Trustees' Association and the Canadian Home and School and Parent-Teacher Federation. An annual three-week course or workshop is conducted at the University of Alberta, attended by selected provincial education officials, local supervisors, administrators and teachers. This is followed each year by two regional courses—one in eastern Canada and one in western Canada—to review and evaluate the main course and provide for a closer study of developments, practices and problems. Provision is made for continuous evaluation of the project by all concerned.

Financing Education.—The general principles of financing educational institutions are the same in all provinces though there are minor variations. The publicly controlled elementary and secondary schools are built and operated by the school boards which receive their income through direct taxation, provincial grants, and other sources.

An understanding of municipal organization is essential to an understanding of taxation for school purposes. Nova Scotia and New Brunswick alone are completely organized municipally, the other provinces having large unorganized areas, mostly sparsely settled. In the organized areas of most provinces, only the annually elected councils of the local municipalities have power to assess property and levy taxes; in Prince Edward Island, Nova Scotia and Quebec a school board also may levy taxes. In the unorganized areas of Quebec, Ontario and Saskatchewan, school boards may levy taxes, while in Manitoba, Alberta and British Columbia a provincial assessor evaluates the property and levies taxes. In those areas where the municipal council has the sole right to levy taxes, that council is in most cases obliged to accept the budget submitted by the school board, although it may give some advice regarding the limitation of expenditures.

Assessment for school purposes is on the valuation of (1) land, (2) buildings or, in some provinces, improvements, (3) personal property in Nova Scotia and Manitoba, (4) business income in Ontario, Manitoba and Saskatchewan, and (5) mines income in Ontario. Crown lands, educational institutions, churches, cemeteries and the property of agricultural and horticultural societies are usually exempt from taxation. Various methods, such as provincial assessments, county assessments and special grants, are used to overcome the variations caused by the multiplicity of local assessments.

Students preparing to enter the industrial world are given instruction by methods and equipment geared as closely as possible to actual working conditions. These boys from a vocational high school are visiting a local hydro power sub-station.



The tendency has been for the provinces to assume, through the payment of grants, an increasing share of the cost of elementary and secondary education. Most grants are paid to the school boards but in some cases they are also paid to teachers. "Basic" grants are based on teachers' salaries, certificates and experience, approved costs, average daily attendance, number of classrooms or a stated minimum cost. "Special" grants are for such items as transportation, auxiliary classes, music, arts and crafts, building costs, equipment, libraries, assistance to poor districts, home economics, shop work, night schools, etc. Special grants loom largest in Quebec where there is marked emphasis on training for home industries, arts and crafts, etc.

Except in Quebec, fees are limited to students in secondary grades. They are only nominal and constitute a very minor portion of the income of school boards. In Quebec, fees may be charged for both elementary and secondary education and may account for 10 p.c. of the income of the boards. Other sources of income, including rent of buildings, income from the operation of dormitories and cafeterias, concerts, donations from local organizations, etc., account for from 3 to 5 p.c. of the total revenue.

In most provinces school boards may borrow on notes for current purposes, though amounts, terms and the purpose of the loan may be limited by law. Security for such loans may be provincial grants or taxes. Where such loans are not permitted, boards may seek an advance from the municipal council. Borrowing for building purposes is usually done through the issue of debentures by the municipality on behalf of the school board, in most cases approved and in some cases guaranteed by the provincial government. Sinking funds are permitted in some provinces but not in others.

Private schools are supported by fees, donations and endowments and some in Quebec receive provincial grants. In Ontario and the Maritimes, teacher-training for elementary teachers is free but in Quebec and the western provinces fees are charged. Certain teacher-training schools in Quebec operated by religious orders receive provincial grants.

Fees account for 38 p.c. of the income of universities and colleges, and provincial and federal grants for 42 p.c. The remainder comes from investments and other sources. In the case of the provincial universities of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, the provinces pay, subject to limitations, the difference between expenditure and income. Some provinces provide the university buildings. The Federal Government makes large annual grants to the provinces to encourage vocational education, including youth-training, apprenticeship and technical education, provides grants for research, scholarships and university education and pays for the education of veterans.

In 1952 a new system of federal grants to the universities was inaugurated. For many years federal financial assistance has been given to the universities or to university scholars and research workers for specific purposes considered national in scope. The new grants represent an annual contribution to university education based on the population of each province.

Adult Education.—Adult education, both formal and informal, is becoming increasingly necessary to the Canadian way of life. Casual learning gleaned from newspapers and magazines, the cinema, radio and television programs, has been growing decade by decade. Formal education authorities have been

Music room in a modern high school. The teacher records a clarinet solo so that the pupil may later criticize her own efforts.



interested in promoting community centres, fostering the arts, encouraging good citizenship and developing leadership.

In rural areas educational undertakings include: short courses given by itinerant instructors in home economics or agriculture; community groups formed for the discussion of documentary films or radio programs; lighted school programs; and folk schools which provide opportunity for young people to share experiences in community living. As rural communities are more homogeneous in interests and organization, providing adequate adult educational opportunities is easier than in urban areas. Urban organization, on the other hand, lends itself to greater variety in academic and vocational classes at the high school and college levels with a wide variety of hobby and recreational courses.

Services and aids provided directly or indirectly by the Federal Government include: documentary films produced by the National Film Board; educational broadcasts prepared by the CBC studios, or by provincial authorities, or co-operatively; art displays and prints from the National Gallery; and pamphlets and booklets on a wide variety of subjects. Services provided by the provincial governments vary from grants for evening classes to sponsored or assisted programs in formal education, recreation, fitness, health or youth programs, and more sporadic contributions of the departments of agriculture, forestry, fisheries, etc. Teaching aids are made available free or at nominal cost.

A survey of adult education conducted by the DBS for 1950-51 showed that eight of the ten provincial Departments of Education had Divisions of Adult Education employing in all 192 full-time and 622 part-time workers. Four of these Divisions prepared booklets, three prepared films, three exhibits, four radio broadcasts, and one lectures; a number of them conducted a wide variety of activities enrolling 37,139 persons in classes, some of them extending over several months.

Thirteen institutions of higher learning prepared books and pamphlets, lesson outlines and study courses, and radio broadcasts and transcriptions. Nine prepared films, filmstrips or slides, and seven prepared travelling or other exhibits. Counting short courses, evening courses, summer courses, refresher courses, workshops, institutes, conferences, etc., one university conducted 2,910 meetings enrolling 7,172 people while three others had 2,530, 1,655 and 1,305 meetings and enrolled 1,633, 3,921 and 670 persons, respectively. This was in addition to courses leading to degrees.

The Canadian Association for Adult Education, an independent voluntary organization, co-ordinates the work of the major adult educational agencies in Canada, provides ideas and motivation, and conducts research. La Société canadienne d'enseignement postsecondaire performs similar functions for French-speaking Canadians.

• *Scientific Research*

The National Research Council is the central organization for research on the national level. At the same time research activities are conducted by a number of Federal Government Departments, notably Agriculture, Mines and Technical Surveys, National Health and Welfare, and Fisheries. These Departments have trained permanent scientific staffs for investigation and research in their own fields, such as soil problems, crops, breeding and testing of animals, processing and marketing, extractive and physical metallurgy, silvicultural and forest products, hydrography, food and nutrition, medical care, cosmetics, drugs and pharmaceuticals, ocean and mollusk fisheries, etc. The Board of Grain Commissioners maintains laboratories for research in milling, baking and malting, and the Dominion Observatories carry out research in the fields of solar physics, astrophysics, seismology, terrestrial magnetism, gravity, and so on.

Research in specialized fields is also carried on by other levels of government and in recent years it has become common practice and indeed almost a necessity for large industrial concerns to establish their own research facilities. The universities are active in scientific research and assistance is given in certain fields by a number of research foundations including the Ontario Research Foundation at Toronto which provides aid to the public and to industry in matters of a technological character; the Banting Research Foundation which aids medical research throughout Canada; and the Rockefeller Foundation which assists in the furtherance of scientific research in medical science, natural science, social science and public health.

Liaison among scientific interests is maintained through meetings of scientific and engineering societies and various specialist gatherings and continuity of effort is often secured through the appointment of committees by such organizations as the National Research Council, the Defence Research Board and the Fisheries Research Board.

An Advisory Panel on Scientific Policy, consisting of senior research officials, keeps in close touch with all research activities carried on under the auspices of the Government of Canada. Each of these agencies in turn maintains working relations with provincial and other research institutions and the machinery of scientific and industrial research throughout Canada is thus integrated into a smoothly working mechanism of high efficiency.

he Defence Research Board, an essential part of the defence of Canada, has built up certain research facilities in specialized fields.

he earth-covered presshouse where cordite for experimental shells is rolled is part of the Canadian Armament and Development Establishment at Valcartier, Que.

technicians checking a teletype circuit in the Radio Physics Laboratory near Ottawa.



National Research Council.—The National Research Council was established in 1924 by the Government of Canada to have charge of the organization and direction of scientific research at the federal level. It combines the functions of a national bureau of standards with the promotion of graduate research by means of scholarships to individuals and grants-in-aid to universities. It also serves a wide range of industries by developing new or improved methods for the utilization of natural resources and the reduction of industrial and agricultural wastes.

The Council is responsible to a Committee of the Privy Council on Scientific and Industrial Research, nominated by the Governor in Council and consisting of seven Ministers of the Crown. The Honorary Advisory

Council for Scientific and Industrial Research consists of a President, a Vice-President (Administration) and two Vice-Presidents (Scientific) and not more than seventeen other members. Except for the President and Vice-Presidents, members hold office for three years. Meetings of the Council, which is a policy-forming group, are held quarterly.

A Technical Information Service is maintained at Ottawa to provide scientific and technological information needed by industrial firms throughout Canada. Improvements or new processes developed in the laboratories are passed on to industry through Canadian Patents and Development Limited, the Council's patent and licensing agency.

The Council's earlier program of applied industrial research is currently being maintained and strengthened, but it is now also supported by a substantial amount of fundamental research. Much of this work is being done under the post-doctorate fellowship plan inaugurated in 1948. Fellows are selected on a competitive basis from a dozen different countries, including Canada. Appointments, which are for a single year in the first instance, may be extended to include not more than a second year.

Pure research having a bearing on industrial problems is also finding a place in the Council's laboratory operations. Research was, at one time, directed chiefly towards the development of new industrial processes or to finding methods for the utilization of natural resources for which commercial outlets had not yet been found. Recently, however, the need for industrial research at the federal level has been offset to some extent by the creation of laboratories by various industrial establishments across the country. These laboratories are, of course, chiefly concerned with practical operating and processing problems rather than with pure research. Hence, when in the course of their work they turn up problems in pure research for which they would like to have answers but which do not offer promise of monetary award in the company's operations, they are inclined to refer these studies to the National Research Council for investigation. New scientific knowledge is thus secured and, at the same time, the findings often prove to be of some commercial significance as well.

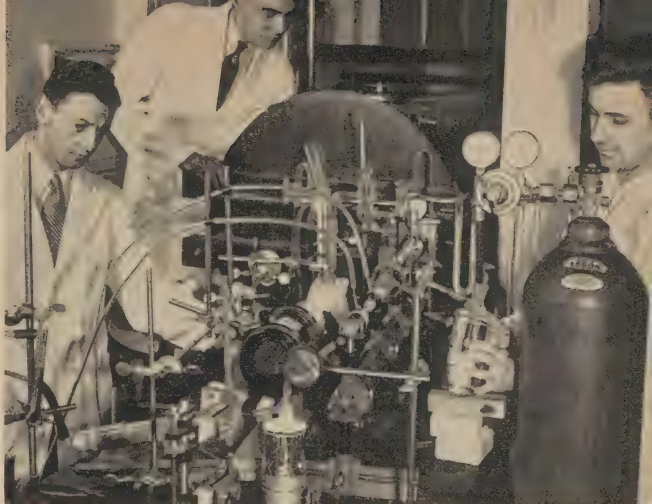
At the present time, the laboratories operate in nine Divisions and two regional establishments. Revenues are derived chiefly from an annual Government grant of about \$15,000,000, but the Council also earns close to \$1,000,000 a year in fees and services. Problems deemed of national interest may be undertaken entirely at the Council's expense. In other cases, when a company has an interest in a project, arrangements may be made whereby the expense of the research is shared by the company and the Council. In exceptional cases, especially when facilities for a given investigation are not available elsewhere in Canada, the Council may undertake a specific piece of research for an industry on a fee basis, in which case the results become the property of the company requesting the information.

Notes on the work of the laboratory Divisions given hereunder provide a summary of the Council's current activities.

Applied Biology.—Food investigations in their biological, biochemical and engineering aspects form a major part of the Division's interests. Other investigations are being conducted on: the utilization of agricultural by-products, such as the production of butylene glycol from beet molasses and

NATIONAL RESEARCH
COUNCIL ACTIVITIES

Post-doctorate Fellows
from Canada, United
Kingdom and United
States working in the
spectroscopy labora-
tory, Division of Physics.



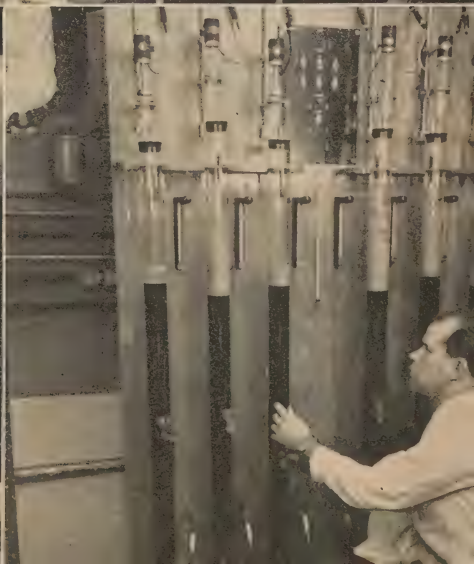
Checking bricks of test hut for heat
loss, Division of Building Research.



Fitting a propeller to a model ship for
testing, Division of Mechanical
Engineering.



Checking citric acid production from
fermentation of molasses, Division
of Applied Biology.



sulphite liquor, and the production of citric acid by deep fermentation; the acclimation of animals to various temperatures as a source of information on the probable effect of cold on human beings subjected to Arctic conditions; photosynthesis which is yielding useful data on the way plants convert their food materials into plant tissue; and the constitution of plant gums from wheat flour and wheat straw.

Pure Chemistry.—Much of the work in the Division of Pure Chemistry bears close resemblance to university research studies and is directed towards a similar objective—adding to the sum of human knowledge of chemical science. Problems in colloid chemistry have been concerned mostly with the properties of suspensions; calorimetric investigations are being made of the thermodynamic properties of simple gases; the chemistry of liquid ammonia solutions is being elucidated.

New data have been obtained on rotational isomers; studies of critical temperature phenomena have led to a better understanding of the liquid-vapour transition; mercury-photosensitized reactions of ethane and amines, and related problems in photochemistry have been studied.

Applied Chemistry.—In this Division, the major function is the prosecution of long-term research to provide scientific information on subjects of importance to the Canadian economy and to the development of Canadian resources. Pilot-plant operations are under way on projects of industrial importance, such as the recovery of oils from Alberta tar sands and the oxidation of ethylene to ethylene oxide, from which a long line of industrial organic chemicals might be produced. Of immediate practical interest are investigations on corrosion, textiles and rubber. Interesting studies in metallurgical chemistry are concerned with methods of preparing synthetic gems such as sapphires and rubies.

Physics.—This Division covers a wide range of work from cosmic rays and spectroscopy to temperature and radiation, colorimetry, and standards of weights and measures. In the pure physics branch a study is being made of the very penetrating cosmic ray particles arriving at the earth in a horizontal direction. In spectroscopy, discoveries of international interest have been made in regard to the atmospheres of Neptune and Uranus, and in the structure of certain molecules, to mention only two of many research projects. X-ray diffraction powder patterns of more than eighty pure narcotics have been obtained as part of a survey of physical methods for identification of these substances.

On the applied side, work is proceeding on problems in acoustics, electricity, metrology, optics, photogrammetry, colorimetry and radiology, as well as on temperature and radiation. A new type of fog horn has been designed and put into use. Equipment has been built and is in use to measure brightness and contrasts which occur in typical outdoor photographic scenes on the ground. Film-resolving power of photographic film is being studied. Optical relay systems have been designed for use with the gunsight in fighter aircraft. Colour codes for steel bars and colour selections suitable for use on aeronautical maps used in aircraft have been worked out.

Building Research.—Working in close co-operation with the construction industry and Central Mortgage and Housing Corporation, this Division is conducting an extensive program of research in building materials, domestic

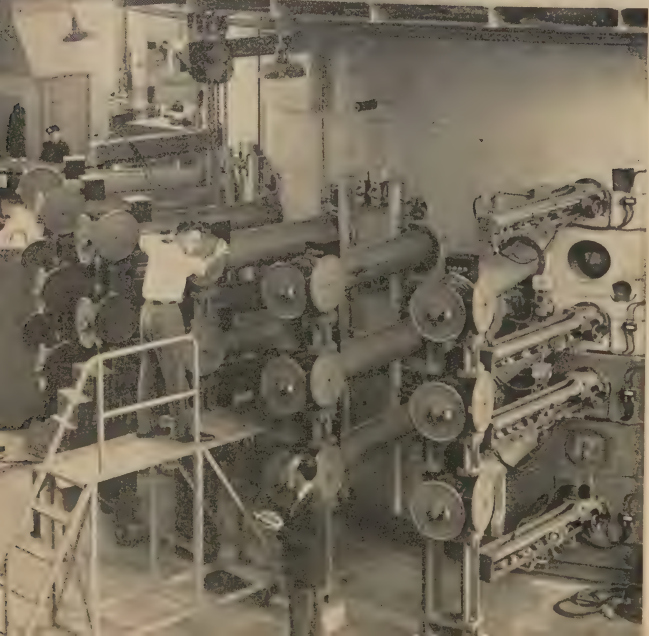
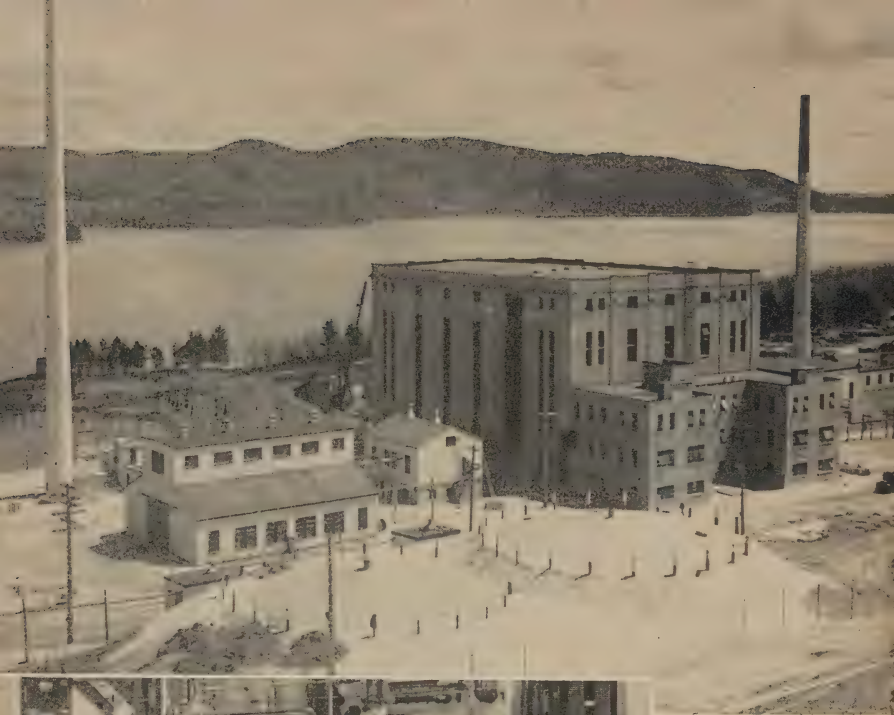
The sugar-beet industry—in co-operation with the Federal Department of Agriculture, and with fertilizer, seed, weed killer and insecticide companies—conducts experimental work designed to improve sugar-beet yields through variety tests, fertilizer experiments and disease and insect control measures.



heating, insulation, fire research, building physics, design characteristics and soil mechanics. Co-operation is the keynote of all its work, and its investigations extend to all parts of the country; a station at Norman Wells, N.W.T., operated in conjunction with Imperial Oil Limited, is providing useful information on Arctic problems; seven test huts are being operated in different locations to determine the insulating value of various building materials under differing climatic conditions. The National Building Code is being revised and brought up to date.

Mechanical Engineering.—Aeronautical and hydraulics research and testing are the main fields of endeavour in this Division. Emphasis on aviation in modern defence and the determination to build up in Canada an industry capable of developing and producing aircraft and turbine power plants, have necessitated increased facilities for aeronautical research and testing. Several government organizations are concerned in this field and their activities are co-ordinated through a policy-making body known as the National Aeronautical Establishment. The Division functions as the research wing of the Royal Canadian Air Force and also serves the aviation industry in the design, development and testing of new types of aircraft.

Radio and Electrical Engineering.—Here, again, defence projects comprise the major part of the activities of the Division. Design and development of various military radar sets extends as far as the construction of the



The Atomic Energy Project in Chalk River, Ont., operates two heavy water reactors—a low-energy reactor known as ZEEP, and NRX, the most powerful natural uranium reactor in the world. The still more powerful reactor under construction will make possible a more adequate supply of radio-active isotopes which have a rapidly growing list of applications to industry, medicine and agriculture.

experimental model. When the equipment is required in quantity by the Armed Services, close co-operation with industry is maintained during the experimental program.

Considerable basic research is carried on in radio-physics and in radio and electrical engineering. Four sections of the Division are concerned with subjects of civil rather than military interest, including: testing and development work for electrical manufacturers; electronic work associated with a program of electromedical research in progress at the University of Toronto; civil radar techniques, especially in their application to air and sea navigation and aerial survey problems; and solar noise observations, radio-frequency mass spectrometers, and antenna design.

Atomic Energy Research Activities, 1952-53.—Considerable progress in the acquisition of new basic knowledge of nuclear science was made during the year at Canada's main atomic energy establishment at Chalk River, Ont., which is operated by a Crown company, Atomic Energy of Canada Limited. Important advances were also made in chemical separation operations and in isotope production processes.

The Chalk River project operates two heavy water reactors: a low-energy reactor known as ZEEP, which began to operate in 1945 and has proved to be an invaluable research tool; and NRX, the most powerful natural uranium reactor in the world, which began operation in 1947. Construction of a new reactor, known as NRU, was begun in 1952 and has proceeded according to schedule. This reactor will be more powerful than the NRX reactor and will provide valuable facilities for research related to the production of electric power from atomic energy.

Nuclear reactors have provided man with the most concentrated energy source ever devised. The heart of the NRX reactor, for example, is only eight feet in diameter and ten feet high, but was designed for a power of 10,000,000 watts and now operates at a power above that figure. What takes place in the fission process in a heavy water reactor is that an atom of a certain weight breaks up into two components, the sum of whose weights is less than that of the weight of the original atom. Mass has disappeared—it has been converted into energy and this energy appears in the reactors in the form of heat and radiation.

Much valuable information was obtained during the reconstruction of the NRX nuclear reactor which broke down in December 1952. The repair of this highly contaminated reactor presented unique problems for the research and operational staffs. The work provided data upon which were based modifications in design and instrumentation that have made possible a more powerful reactor.

The Commercial Products Division of the company continued to expand its operations in 1952-53. More than a thousand shipments of radioisotopes and associated equipment were made during the year to research centres, industries and hospitals in Canada and abroad. Model A Cobalt-60 Beam Therapy Units for the treatment of cancer fabricated by the Division were installed in hospitals at Winnipeg, Man., Vancouver, B.C., and London, Ont.; at New York, Minneapolis and Chicago in the United States; and one in Italy. A Model B Unit, which also contains radioactive cobalt produced at Chalk River, was installed in a hospital in England.



Social and Cultural Relationships

IN the fields of cultural and artistic activity Canada has been enjoying a period of well-being and growth, parallel to the general economic prosperity of recent years. Many manifestations of lively public interest, often reflected in governmental action, have been noted in every part of the country, and in 1953 there was no lessening of the trend. Much of Canada's artistic vigor, it must be recorded, exists on a purely local or regional basis, and the long-awaited national consciousness in the arts is slow to come. Creative writing by Canadians is perhaps the most notable artistic activity having a tendency to knit the people of Canada into a national whole; but important contributions are made by such agencies as the Dominion Drama Festival, the Canadian Ballet Festival, the National Gallery and the Canadian Broadcasting Corporation. Several years ago a country-wide stocktaking of the arts in Canada was undertaken by the Royal Commission on National Development in the Arts, Letters and Sciences, and its enquiries and subsequent recommendations gave a lasting fillip to public and governmental interest in cultural activities. Many of the Commission's recommendations have been carried out by the Federal Government, but the one of greatest potentiality, the establishment of a "Canada Council", has not yet been implemented.

Many matters of cultural interest shared the spotlight during 1953, and in sum-total they are indicative of the notable growing public interest in the whole field of artistic activities. The Stratford Shakespearean Festival was front-page news, as well as being the concern of drama critics and editorial writers. Important scholarships for artistic studies abroad, granted by the Royal Society on behalf of the Canadian Government and by the Canada Foundation on behalf of the Canadian Amateur Hockey Association, made encouraging news. The success of the Canadian music festivals, the achievements of the Royal Winnipeg Ballet and Toronto's National Ballet Company, the growing prestige of the Dominion Drama Festival and the artistic triumph of the all-Canadian concert at Carnegie Hall, New York, were matters of interest. Less widely known but of great importance were local events like the Montreal Summer Festivals at which first-rate artistic entertainment was presented every evening for a month, including plays in French and English, operas, recitals, concerts, dancing and films. The growing appreciation by Canadian corporation executives of the value of art forms for public-relations purposes has resulted in a greatly increased use of painting, music and ballet, and thus better livelihood for Canadians engaged in cultural pursuits.

Public interest in the arts and the growth of support for all forms of cultural activities in Canada in 1953 and during the past several years has been most extensive, but only a few representative indications of what has been happening can be attempted here.

Literature

Critics in other countries as well as in Canada seem to be of the opinion that creative writing in Canada has emerged from the localism that characterised it for many years, and is taking its place beside the work of cosmopolitan



The success of the Stratford Festival means the beginning of a truly national theatre that will permit Canadian actors and actresses to exercise their talents at home, present a challenge to Canadian writers and create an entirely new industry of theatrical crafts.

and mature literary craftsmen elsewhere. This does not mean that Canadians are successfully writing great works that impress the world, but it does mean that on the average Canadian writers are turning out novels, belles lettres and works of non-fiction which can compete successfully for readers' attention. The fact is that the craft of writing is becoming a profitable means of livelihood for an increasing number of Canadian men and women and the number of copies of Canadian books sold in Canada and in other countries has increased manifold in the past several years. A record number of new books was published by Canadians in 1953 and of particular interest was the increase in the number of biographies offered to the public. In the past, Canadians have been remiss in their failure to record and relate the stories of the lives of the men and women who have made great contributions to the welfare of their country and of mankind; the new trend toward biographical writing and publishing is welcomed.

Theatre

The spotlight of theatre interest in 1953 was upon the Ontario city of Stratford, where a six-week Shakespearean Festival was a notable artistic and financial success. From July 13 to August 22, on alternate evenings, *Richard III* and *All's Well That Ends Well* were performed before capacity audiences in a specially built tent-theatre. Four distinguished theatre personages from Great Britain headed the productions, the remainder of the cast being Canadian actors. The noted English producer Tyrone Guthrie and the equally outstanding stage designer Tanya Moisiewitch were responsible for production of the plays, while Alec Guinness and Irene Worth, noted stars of stage and screen, played the leading roles. The venture was financed and administered as a local operation, the entire community of Stratford acting as impresario and host. A total of 68,660 tickets was sold, 31 p.c. to residents of nearby cities in the United States. Ticket sales brought in \$206,000 and donations from interested persons and corporations amounted to \$157,000. After paying for valuable fixed assets costing more than \$150,000, the festival

A Canadian Shakespearean Festival held its first six-week season in the summer of 1953 and Canada, with sudden brilliance, stepped into the forefront of activity in one of the oldest and liveliest of arts—the theatre.

In the small city of Stratford, Ont., two plays were presented in a theatre that is a modern adaptation of Elizabethan concept and on a specially designed stage that re-established conditions under which Shakespeare's plays were presented in his own day. Three plays will be presented at the Second Annual Festival to be held from June 28 to August 21, 1954.



Scenes from "Richard III" and "All's Well that Ends Well".



closed its books with a deficit of about \$4,000. Both artistically and financially Stratford's first theatre festival was an outstanding success, and the sponsoring organization has announced an eight-week festival for the summer of 1954.

Because Canada has only a few large cities in its vast geographical area, it is not served by touring professional theatrical companies, and the country has been obliged to develop a nation-wide system of amateur theatre activities. This system, which functions on a local and regional basis, reaches its peak of interest in the Dominion Drama Festival, annual climax of Canada's national theatrical competition. The 1953 Festival was held for the first time at Victoria, B.C., and was a resounding success. A play about contemporary life in Canada, *Zone*, produced by a Montreal group, won top awards.

An important development of post-war years has been in the direction of local professional repertory theatre in many Canadian cities and this trend



His Excellency the Rt. Hon. Vincent Massey, Governor General of Canada, back stage at the opening of the Canadian Repertory Theatre season at Ottawa.

was particularly noticeable in 1953. Ottawa's well-established Canadian Repertory Theatre adopted a regular two-week run, after several years of successful "a new play every week" schedule. At Toronto the New Play Society and Jupiter Theatre, among several, continued to thrive; but the Totem Theatre at Vancouver suffered a number of setbacks, including a battle with the local authorities over the staging of *Tobacco Road*. At Montreal, Le Théâtre du Nouveau Monde, a highly skilled French Canadian professional company, completed its third successful year of repertory. Summer theatre activities again enjoyed marked success throughout Canada, with about thirty groups involved. A noticeable aspect of the Canadian drama scene in the past few years has been an increasing number of professionally trained theatre personnel, both actors and executives, who have come from England to join Canadian companies.

The Royal Conservatory of Music of Toronto, under the trusteeship of the University of Toronto, graduates musicians in all branches of the art and science of music. Scholarships enable meritorious students to advance their studies. Among the winners for the 1953-54 season were these singers from Montreal and Noranda, Que., Kitchener, Ont., and Edmonton, Alta.



Music

In many ways music is an important element in the life of Canada and has been since the earliest times. In all the larger cities well-established musical organizations are thriving and through their efforts the public is offered a wide range of concert choices involving both local and imported talent. In the smaller communities the churches and schools are the centres of musical entertainment. In all provinces the importance of musical education is emphasized in the school curriculum and advanced training in theory and performance is available at conservatories or universities in all parts of the country. In more than a score of cities annual musical festivals are events of notable public interest and the Canadian Music Festival Association is now a national organization of influence and prestige.

The Montreal Women's Symphony Orchestra, conducted by a woman and administered by women, is believed to be unique. It has been in existence for fourteen years and has the standard symphony orchestra membership of about seventy-five. Each member has professional status.





The National Ballet Guild of Canada, formed in 1951 at Toronto, gives fully professional employment to Canadian artists in the field of ballet.

Symphony orchestras in a dozen cities are receiving generous support and are rendering valuable services to their communities. Orchestras at Montreal, Toronto, Winnipeg and Vancouver are able to provide symphonic music of considerable brilliance, and the Canadian Broadcasting Corporation brings performances of their works to the national audience.

Public interest in the performance of opera has grown considerably in Canada in recent years and now seems to be well established. The School of Opera conducted by Toronto's Royal Conservatory has achieved nation-wide distinction in its few years of existence and has gained acclaim by its co-operative undertakings with the Canadian Broadcasting Corporation. The televised production of Menotti's *The Consul*, by these two agencies, was a remarkably successful pioneer performance.

Canadian composers are gradually making themselves known and highly regarded at home and abroad and the League of Canadian Composers, only four years old, is now one of Canada's most active and eager musical organizations. Of great interest in 1953 was an autumn concert in Carnegie Hall, New York, devoted entirely to the works of six Canadians—Pierre Mercure, Alexander Brott, François Morel, Healey Willan, Colin McPhee and Godfrey Rideout. The concert, sponsored by Broadcast Music Incorporated and under the direction of Leopold Stokowski, was a notable artistic success.

Ballet

The growth of Canadian public interest in ballet since the War has been noteworthy and evidences of it are seen in all parts of the country. The Royal Winnipeg Ballet, now in its fifteenth year after overcoming many financial and artistic handicaps, has gained wide recognition and prestige; it was signally honored in 1953 by receiving Her Majesty's permission to prefix the word "Royal" to its corporate name. The company is fully professional and has brought its repertoire to many cities in Canada and the United States. Another professional organization, based at Toronto, known as the National Ballet Company of Canada, has succeeded in developing a superb dancing troupe and has performed in most cities in Eastern Canada and to some

extent in the United States. The Fifth Canadian Ballet Festival was held at Ottawa from April 27 to May 2, 1953, and companies from centres as widely separated as Halifax and Vancouver presented seven performances to sell-out houses. Ballet schools are thriving in many Canadian cities and summer courses at well-known institutions—the Banff School of Fine Arts and Queen's University—are attracting full registration. A number of British, American and European ballet companies have played in Canadian cities in the past several years and have invariably performed to full houses.

Art

All forms of visual and plastic arts are thriving in Canada, from two points of view—the character and quality of work being produced and the lively public interest in the various means of artistic expression. While painting, engraving, ceramics and other aspects of creative art have done well in the past year, the work of Canadian sculptors has probably been of greatest interest. Elizabeth Wyn Wood, Florence Wyle, Jacobine Jones, Sylvia Daoust and Frances Loring have gained such prestige both at home and abroad that women artists seem to lead in the field of Canadian sculpture for the time being. Three of these talented Canadian women were commissioned in 1953 to carve fourteen significant figures to be used as trophies for the Dominion Drama Festival. Considerable interest among sculptors was aroused by the Canadian Government's announcement in 1953 of a competition for the creation of a heroic memorial monument of Sir Robert Borden, Canada's Prime Minister during World War I. For many years there has been little willingness on the part of institutions, governments or individuals in Canada to purchase sculptured works but a distinct change has been observed in the past several years and the market for Canadian productions now seems more promising than ever before.

A place in the sun! Canada's East Coast is a mecca for the artist—every little fishing village and every curve of the shoreline presenting a picturesque aspect difficult to resist.



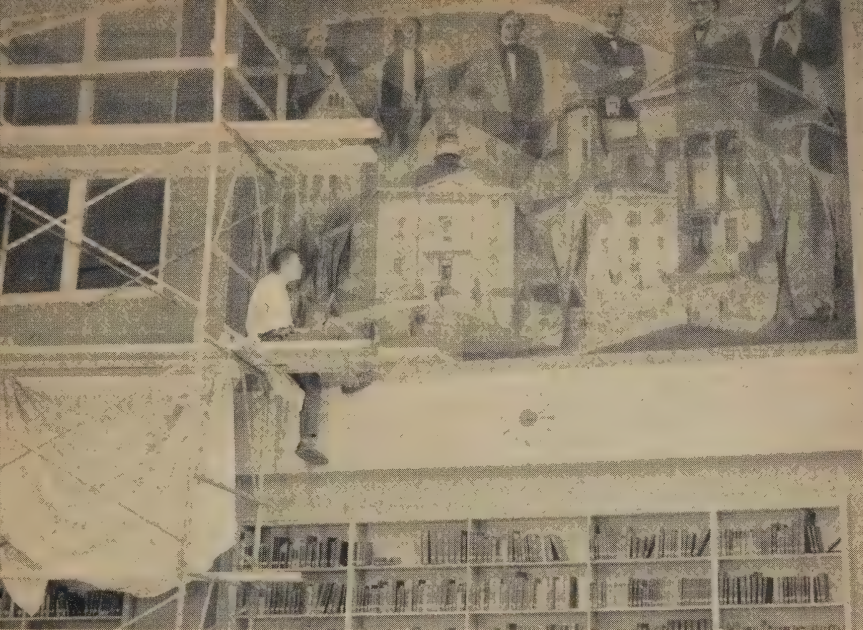
Painting has been a favoured art form among Canadian creative artists for many years and in the quarter-century 1920-45 there evolved something in the nature of a "Canadian School" with a highly specialized attitude toward the strong and colorful landscapes of the north country. Recently, however, Canadian painters have dropped much of their former provincialism and have become cosmopolitans with a broad, liberal outlook and an eagerness to experiment with new styles and techniques. Of greatest importance since the end of World War II has been the country-wide "art awakening" of the general public. Attendance at art galleries has increased manifold, new galleries have been opened, art books and magazines have been purchased in great numbers, drawing and painting lessons are in widespread demand and



Canadian artists and craftsmen combine their talents to give interior decorators new and unique patterns for draperies and upholstery materials. Designs are predominantly abstract art in its purest form and in many cases are characteristically Canadian.



Designs are transferred to materials by silk-screen process, the actual printing being the least technical operation. Planning of dyes, order of printing, thickness of mixture, accuracy of tracings, all present more difficult problems.



The accumulation of books in the library of McGill University has several times, throughout the years, outgrown accommodation until on Oct. 6, 1953, the new Redpath Library was opened with space for 1,250,000 books. The hours spent in the Library by generations of students yet to come will give this event its true importance. The Library mural, painted by York Wilson, commemorates McGill leaders.

the purchase of works of art has become an important source of gratification and encouragement to the artists.

The National Gallery of Canada, encouraged by increased financial support through Parliamentary grants, has grown in stature and leadership in recent years. Its collections of Canadiana and foreign works have been strengthened notably in the past five years and its service of "touring exhibitions" is now stimulating art interest and appreciation in many Canadian cities. The exhibition of Canadian paintings abroad is also increasing notably, an example being the invitation in 1953 to twenty-four Canadians to be represented at the second Biennial International Exhibition of Modern Art at São Paulo Museum, Brazil. The works of painters from other countries are also finding frequent opportunities for exhibition in Canadian galleries. Art societies are thriving in many parts of Canada and groups of painters with special interests are working vigorously at Montreal, Toronto, Winnipeg and Vancouver.

Cultural Organizations and Schools

A large number of cultural organizations serve as centres of interest for Canadian writers, musicians, painters, sculptors, dramatists, dancers and others who are concerned with the arts. Most of these societies function on a local basis, but a number of them are effective nationally and are growing in strength and influence. The Canadian Arts Council, spokesman for seventeen national cultural organizations, will celebrate its tenth birthday in 1954.



Pottery, an art as old as antiquity but forever new, has many talented enthusiasts throughout Canada, as shown at a recent exhibit sponsored by the Canadian Handicrafts Guild.

The Canada Foundation, chartered in 1945, is a voluntary agency which provides a national cultural information centre and stimulates patronage for cultural scholarships. The Royal Canadian Academy is the officially sponsored prestige body in the field of the fine arts, although a number of other groups, such as the Canadian Group of Painters, the Water Colour Society, the Ontario Society of Artists, the Federation of Canadian Artists, the Sculptors' Society of Canada and the Graphic Arts Society, are vigorous and influential. Several national bodies are devoted to the promotion of annual festivals in the arts, as for example, the Dominion Drama Festival and the Canadian Ballet Festival. In all parts of Canada there are schools offering training in all the arts; some at the professional, university level and others at the level of the tyro and hobbyist.

Handicrafts

The promotion and encouragement of handicrafts is highly developed throughout Canada, and organization is in the form of voluntary societies and government-sponsored groups at the national, provincial and local levels. Some of the skills and crafts have been practised in Canada since the earliest times when the actual needs of pioneer life demanded home manufacture of furniture, rugs, cloth, dishes, utensils, clothing and ornaments. To the knowledge and skill of indigenous crafting has been added the handicraft talent of immigrant peoples from every country in Europe, with a resultant variety probably not equalled elsewhere.

Provincial governments and the extension departments of universities maintain staffs of highly trained and skilled handicraft workers who organize groups, train leaders and sponsor exhibitions. Many civic governments employ skilled handicraftsmen to teach and organize at community centres, and civic exhibitions of crafts are frequent. In most cities handicrafts are taught in the local schools. The Federal Government promotes handicraft activities among its wards—the Indian and Eskimo peoples.

The Canadian Handicraft Guild, with a number of provincial subsidiary branches, is a strong and vigorous citizens' organization devoted to the

CANADIAN
PAINTING



JACQUES DE TONNANCOUR

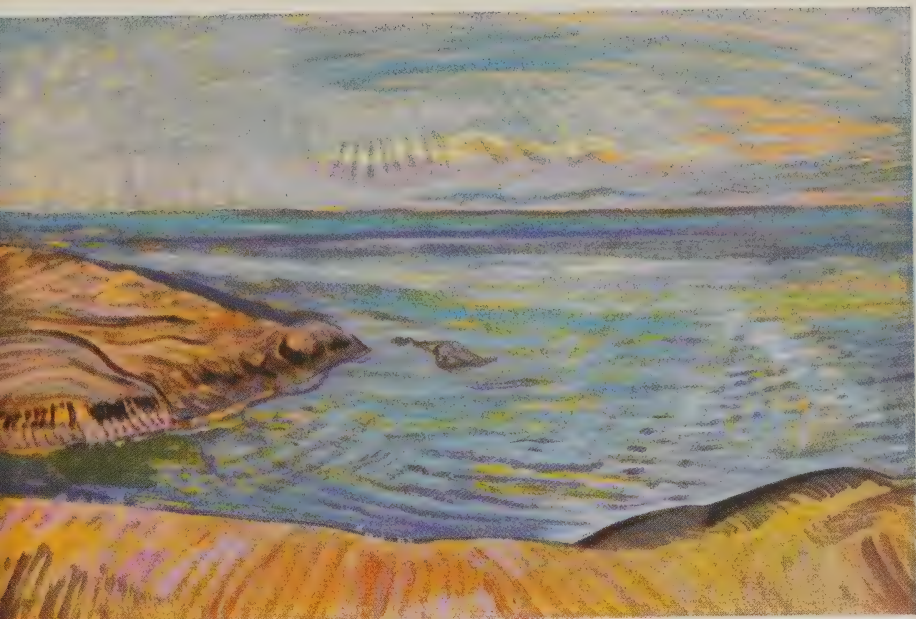
Sous-bois

Reproductions by courtesy
of the National Gallery of Canada.



ANTOINE PLAMONDON, R.C.A.
1804-1895

Portrait of a Boy



EMILY CARR
1871-1945

Sea-scape

GOODRIDGE ROBERTS, A.R.C.A

Trees, Port-au-Persil





ARTHUR LISMER, R.C.A., LL.D.

October on the North Shore

Rug hooking is a useful and interesting hobby, enjoyed more particularly by housewives in rural districts.



promotion of all forms of handicraft. A number of individual crafts are organized within the general handicraft network and promote the welfare of their particular groups. The Canadian Guild of Potters and the Canadian Leathercraft Guild, representing a fine arts aspect of their crafts, are members of the Canadian Arts Council.

Humanities and Social Sciences

The humanities and social sciences represent those fields of intellectual effort that distinguish the university faculties of "arts"—language, literature, history, philosophy, economics, political science, sociology, etc.—from those of "science". Concern has been expressed in recent years over what appears to some in the universities to have been inadequate preparation of students in these studies at the level of secondary and elementary education. That there has been a decline in study of the classics there can be no doubt, but at the same time serious study of Canadian and world affairs and of contemporary culture has been increasing and the number of significant Canadian contributions to scholarship is advancing year by year.

The Canadian Social Science Research Council, founded in 1940, and the Humanities Research Council of Canada, founded in 1943, have followed similar courses in stimulating and improving the quality of studies in their respective fields. Both Councils have assisted the publication of scholarly works, have aided mature scholars in financing research and, by pre-doctoral fellowships, have stimulated advanced education. These activities have been financed largely by grants from the Rockefeller Foundation and the Carnegie Corporation of New York. However, administrative expenses of the two Councils are now being met by grants from a score or more Canadian universities and colleges. Such funds enable the Councils to convene meetings at which projects are frequently launched for joint effort on a national basis. In 1950, the Humanities Association of Canada was set up on a basis of broad membership in the hope of serving a purpose in its field similar to those of the Canadian Historical Association, the Canadian Political Science Association, and the Canadian Institute of International Affairs.



A new library, established by a business concern for its employees, contains books and periodicals for business and leisure reading.

As pointed out by the Royal Commission on National Development in the Arts, Letters and Sciences in its report of 1951, there is a great discrepancy between the encouragement that is given to students in these fields and to students in the natural sciences, through the medium of scholarships and fellowships. In each of the past three years the Canadian Government, however, has made funds available through competition for groups of scholarships in the humanities and social sciences. The funds were blocked balances standing to the credit of the Canadian Government in France and The Netherlands, while the competitions were administered by the Royal Society of Canada.

Libraries

A survey of libraries in Canada is taken every second year. The latest survey, recording 1951 data and covering 798 public libraries, 307 free public libraries and 444 association libraries, showed book stocks of 7,466,048 volumes, circulation of 25,099,920 volumes to 1,390,607 borrowers, expenditures of \$6,448,013 and 1,397 full-time personnel. Excluding Newfoundland for purposes of comparison, there was an increase of more than 35 p.c. in the net number of volumes in public libraries in 1951 as compared with 1941. Expenditures on public libraries tripled and, in 1951, grants-in-aid provided by provincial governments were ten times higher than those reported in 1941. The proportion of library expenditures spent on salaries increased from 51 p.c. in 1941 to 52 p.c. in 1951 and per capita expenditure on libraries rose from 20 cents in 1941 to 44 cents in 1951. The proportion of the population using the public libraries remained at one in ten but the number of loans per reader decreased from 19 to 18. This decrease occurred almost entirely in the field of fiction which, in 1941, represented fully 50 p.c. in the classified loans as compared with 38 p.c. in 1951.

Currently the subject of major interest to Canadians in the field of library service is the prospective National Library of Canada, authorized by the National Library Act which became effective Jan. 1, 1953. Since that date, considerable progress has been made on the preparatory work basic

to the foundation of the Library. The National Library Advisory Council has been appointed as well as the National Librarian, the Assistant National Librarian and other personnel. The Canadian Bibliographic Centre, the Union Catalogue and Canadiana, national services that were inaugurated before the passing of the Act, have been absorbed into the Library organization. The site for the building has been chosen and the architects selected; it is expected that the building will be completed by 1956.

Next in importance is the concerted effort of the provinces to provide library service for residents in rural areas and in the more isolated areas of Canada. Also the growth in area and population of the cities of Canada has made necessary the extension of library service to schools and residents in recently annexed areas. Several cities have adopted a system of regular service by bookmobile and in many cases deposit libraries are established in the schools of new areas.

The service of municipal libraries extends beyond the provision of books for reading and reference work. In many communities the public library plays a leading role in the development of appreciation of art and music and is a depository for films used in formal and informal educational programs.

Museums

There are museums in Canada operated by the Federal Government, by provincial and municipal governments, by universities, colleges and local societies and there are, as well, a few privately owned collections.

The National Museum, although essentially a museum of natural history, has collected an extensive exhibit of Indian and Eskimo lore and many phonographic recordings of French-Canadian, English-Canadian and Indian songs. Other federally operated museums include the Canadian War Museum, the nucleus of a historical museum housed in the Public Archives, a collection of aviation exhibits in the National Research Council, a farm implement exhibit at the Experimental Farm at Ottawa, and several historical museums situated in National Parks. All are modest in scope.

Students examining
rock specimens at
the National Mu-
seum, Ottawa.



The Royal Ontario Museum is the largest and best-known of the provincial museums. It specializes in the field of archæology and carries on extensive work in research and publication. The New Brunswick Museum, though smaller, is noted for its exhibits designed for school use. Laval University, McGill University, the University of Western Ontario and the University of British Columbia all have sizeable collections, and certain private exhibits, such as that of the Hudson's Bay Company at Winnipeg and that of the Bell Telephone Company at Montreal, attract many visitors.

The National Gallery at Ottawa has assembled a permanent collection of paintings and sculpture, prints and drawings representative of past and present styles from various countries. The Canadian section is most inclusive and is made known to the whole country through catalogues, photographs, colour reproductions, films, radio broadcasts and, to a limited extent, by loans. The extension work of the Gallery includes organization of exhibitions from collections abroad and the fostering of Canadian industrial art. There are also important collections available to the public in a number of the larger cities.

The Public Archives of Canada at Ottawa is particularly rich in pre-Confederation materials and several provincial governments support archival centres, some in collaboration with universities located at the capital cities, as at Halifax and Toronto.

The Canadian Museums Association acts as a clearing house for information of special interest to Canadian museums, promotes the training of museum workers, facilitates the exchange of exhibits and promotes collaboration with museums of other countries.

Media of Mass Communication

The Canadian Press.—The Canadian Press, a co-operative organization owned and operated by Canada's daily newspapers, provides its 92 members with world and Canadian news and news photographs. It provides news to almost two-thirds of Canada's radio and television stations, and has a service of news and features available to weeklies. It is, in effect, a partnership through which each member newspaper provides to its fellow-members the



A section of the Canadian Press newsroom on an average day.

Make-up time on a weekly newspaper that serves a rural district. Such weeklies frequently take the lead in pointing the way to improvements for both farmers and townsfolk and often circulate far beyond the bounds of the community in which they are published.



news of its particular area. It is also a partnership through which the general news of the world is brought to Canada. Cost of editing and transmission is divided among members according to the populations of the cities in which they publish.

CP editors in eight bureaux across the country handle news exchange, trimming copy to the needs of the regions served and where necessary supplementing the report by direct information. At Ottawa, for instance, CP maintains its own staff to report independently the news of Parliament. CP gets world news from Reuters, the British agency, and from the Associated Press, the United States co-operative, and these agencies depend on CP for their coverage of Canada. Basic coverage from Reuters and AP is supplemented by news from CP bureaux at London and New York and from correspondents elsewhere. AP and Reuters reports, edited and correlated by Canadians in the CP New York Bureau, are delivered over leased telegraph circuits stretching from St. John's, Nfld., to Victoria, Nanaimo and Prince Rupert, B.C.

CP transmits to some of its members by teletypesetter. By this system, news sent from a central point is simultaneously set in type in newspaper composing rooms across the country. The news also appears in typewritten form on teletype machines. By late 1953, CP's news report was being made available to 69 of its 92 members by transmission methods which make possible this automatic setting of type. Of these, 51 were setting their type from teletypesetter tape; the others continued to set type from teletype copy by type-setting machines operated by hand.

In 1949, CP began an airmail exchange of Canadian news pictures among participating members. CP now maintains wirephoto transmitters in five key Canadian centres and has use of equipment in two other cities. With this equipment news photos may be transmitted by wire in a few minutes to

Head Office at Toronto, where national distribution is handled, or to member newspapers that have wirephoto-receiving equipment.

Press Statistics.—Daily newspapers alone contribute 59 p.c. of the value of periodic publications, totalling \$199,000,000, produced in Canada each year, of which amount more than two-thirds is realized from advertising and less than one-third from subscription or sale. Printed and bound books are produced to the value of over \$24,000,000, with fiction, non-fiction, scientific and text-books making up somewhat less than half this amount. Recorded imports of books and other printed matter greatly exceed recorded exports, the former amounting to over \$50,000,000 each year and the latter to about \$3,400,000. Hence, it appears that the per capita expenditure of Canadians on books, pamphlets and periodicals is in the neighbourhood of \$15 a year.

About 95 daily newspapers, counting morning and evening editions separately, are published in Canada, with an aggregate reported circulation of more than 3,570,000—about 82 p.c. in English and the remainder in French, except for a few in Yiddish or Chinese. Ten of the papers enjoying circulations near or in excess of 100,000 account for more than half of the circulation. Well over 90 p.c. of all newspaper circulation is in the cities.

Weekly or monthly publications with a total circulation in excess of 1,000,000, include a considerable variety of foreign-language publications including Ukrainian, German, Yiddish, Polish, etc. Weekly newspapers serve a greater percentage of the people in rural communities than do the dailies.

The combined circulation of Canadian magazines is over 11,000,000. In order of popularity, magazines classified as home, social and welfare come first, agriculture second, trade and industry third and religion fourth.

Purchases of books and other printed matter from the United States are significant, recorded imports having increased from \$28,585,000 in 1948 to \$52,277,000 in 1952. Imports from the United Kingdom have shown a small annual increase in post-war years to about \$2,439,000 in 1952. In the same year, imports from France were valued at \$1,057,000.

Radio and Television.—Radio broadcasting and television in Canada are dealt with at pp. 267-272. The number of radio receiving sets made available in Canada through domestic production and imports has averaged about 700,000 per year since the end of World War II. From a high of 836,000 in 1947, Canadian producers' domestic sales declined to 569,000 in 1952. The Census of 1951 found that 93 p.c. of the 3,408,000 households in Canada had radios. In some cities there were few households without a radio and in the country as a whole one family in ten had two or more.

With the establishment of television service by the Canadian Broadcasting Corporation in 1952 the demand for television receiving sets increased greatly. Producers domestic sales mounted from 29,600 sets in 1950 to 137,000 in 1952 and to over 366,000 in 1953.

Motion Pictures.—In 1952 there were 1,843 motion-picture theatres in Canada with a seating capacity approaching one million, 104 drive-in theatres, 657 community halls offering screenings, and 812 halls serviced by itinerant operators. On the average, each Canadian attended 18 motion-picture programs and paid over \$8 in admissions. Most of the films shown were produced in the United States although a small but increasing number of films came from

the United Kingdom and a few from France and other European countries. In 1952, Canadian motion-picture studios made about \$3,000,000 worth of film for industry and government and proved themselves capable of producing the highest quality of documentary and educational films. Canadian film production in 1952 was divided between private industry (31 firms) and federal and provincial government agencies. The former produced three theatrical features and 15 theatrical shorts in addition to 206 non-theatrical films of five minutes or longer. Most of the non-theatrical films were in colour with sound and in English—33 were in French. Canadian Government agencies produced 58 theatrical shorts and 102 non-theatrical films as well as five theatre trailers, 75 newsreel stories for theatres and television and 96 film-strips. While several Canadian films have won international awards, the Canadian Film Awards, now in its fifth year and sponsored by the Canadian Association of Adult Education, the Canadian Film Institute and the Canada Foundation, provide a means of calling public attention to Canadian achievement in this young industry, recognizing Canadian creative effort and fostering higher standards of film production.

Schools, adult education agencies, and other community groups are making increased use of films. More than 4,000 schools have motion-picture projectors and more than 3,000 have film-strip projectors. There are some 200 film libraries and community film councils in existence, usually developed by public libraries, provincial departments of education, or university extension departments, with the co-operation of school boards, service clubs, etc. The National Film Board has established some 160 rural circuits for periodic film-showing and local libraries receive assistance in obtaining films from the Film Board and the Canadian Film Institute. The distribution of Canadian films abroad has become an important part of the Board's work.

CBC television broadcasts cover programs to suit many tastes—from comedy to dramatic plays, from sports to cooking demonstrations, from pop music to symphonies.





Health and Welfare

GOVERNMENT expenditure in the fields of health, welfare and social security is now larger than expenditure for any other peacetime purpose and ranks second only to expenditure for national defence. While definitions may vary as to what should or should not be included in any tabulation of health, welfare or social security expenditure, it may safely be estimated that the total of federal, provincial and municipal expenditure in these fields stands currently at not less than \$1,300,000,000 annually and may be as high as \$1,500,000,000. Thus, such expenditure in 1953 will amount to not less than 20 p.c. of the total expenditure made by all levels of government.

•Public Health

Responsibility for the planning and supervision of public health services in Canada has rested largely with provincial and local authorities, with assistance from voluntary agencies. In recent years, however, the Federal Government, in keeping with the trend towards shifting at least part of the financial burden to the authority with greater tax powers, has offered to assist with the costs of capital construction in connection with hospitals and other health facilities and with the extension of specific services through the National Health Grants. It has also extended other services.

The Dominion Council of Health, composed of the Deputy Minister of National Health, the chief health officer of each province and five other members, meets twice a year to co-ordinate federal and provincial activities and to plan the extension of public health programs throughout Canada.

Federal Health Services

Federal participation in health matters is centred in the Department of National Health and Welfare, although important programs are administered by other departments. The Department of Veterans Affairs provides medical and hospital care for veterans, the Department of National Defence is responsible for the health of the Armed Forces, the National Research Council makes grants for medical research and the Department of Agriculture has certain responsibilities in connection with food production.

The Federal Government, through the Department of National Health and Welfare, administers many protective measures including the exclusion of infectious diseases at seaports, the medical examination of immigrants, the care of sick mariners, the safeguarding of boundary and other waters against pollution, and the distribution of narcotics. It is also responsible for control of the quality of food, drugs and patent medicines offered for sale. Health services for Indians and Eskimos come under the jurisdiction of the Department of National Health and Welfare as does the promotion of the health of Federal Government employees. Financial assistance is provided by the Federal Government for remedial services for blind pensioners.

Under the National Health Grant Program, funds are made available to the provinces for the extension of existing health services and facilities. The program includes grants for general public health, tuberculosis control, mental health, venereal disease control, cancer control, services for crippled children, professional training, public health research, hospital construction, laboratory and radiological services, medical rehabilitation and child and maternal health. The amount made available for all grants for the year ending Mar. 31, 1954, was \$48,503,826. Grants are also paid to many non-government agencies engaged in health work.

Federal assistance to medical research is provided through research grants, direction and control over which is exercised by the Privy Council Committee on Scientific and Industrial Research.

***Federal Health Grant Funds Available, by Province, Year Ended
Mar. 31, 1954***

Province or Territory	Hospital Construction Grant ¹	Other Health Grants	Total ²
	\$	\$	\$
Newfoundland.....	403,706	883,254	1,286,960
Prince Edward Island.....	141,623	277,753	419,376
Nova Scotia.....	864,590	1,321,340	2,185,930
New Brunswick.....	918,453	1,099,000	2,017,453
Quebec.....	4,388,707	8,289,484	12,678,191
Ontario.....	7,808,956	8,745,168	16,554,124
Manitoba.....	971,160	1,583,294	2,554,454
Saskatchewan.....	2,066,522	1,645,289	3,711,811
Alberta.....	766,575	1,874,272	2,640,847
British Columbia.....	1,497,340	2,352,107	3,849,447
Northwest Territories.....	14,437	43,262	57,699
Yukon Territory.....	8,582	26,052	34,634
Canada.....	19,850,651	28,140,275	47,990,926

¹ Includes a carry-over of \$12,993,767 from previous five-year period.

² Excludes public health research grant amounting to \$512,900 which is not allotted by province.

Provincial and Municipal Health Services

Although basic local health services such as sanitation, communicable disease control and registration of births, deaths and marriages are generally the obligation of cities, municipalities, counties or other local units, provincial governments have gradually assumed increased financial responsibility, with correspondingly increased supervision and control. The provincial departments of health generally plan and direct such health services as vital statistics, infant, child and maternal hygiene, public health laboratories, health education and public health nursing, as well as communicable disease control and public health engineering.

Diagnostic and treatment clinics are provided in various provinces for such diseases as tuberculosis, venereal diseases, cancer, poliomyelitis and mental illness. In some cases vaccines, sera and other special drugs are supplied by provincial laboratories to practising physicians as well as to public health officials. Other activities of the local and provincial health departments include dental services, school medical services, epidemiology and industrial hygiene. Public hospitals for acute diseases receive provincial grants, supplemented

The relentless war being carried on against tuberculosis is showing encouraging results—deaths from that disease have been reduced by almost one-half in the past five years. Here a group of nurses at a Nova Scotia sanatorium receive instruction on the reading of TB X-ray films.



in many cases by aid from municipalities and private benefactors. Most provinces operate tuberculosis sanatoria or contribute to their maintenance, but mental hospitals are usually wholly provincial institutions.

Free treatment for all illnesses is given to indigents and, in some cases, to all residents for certain diseases such as tuberculosis. In Alberta a maternity hospitalization service is provided by the Province. In Saskatchewan and British Columbia there are Provincial Government prepaid hospitalization programs supported by an annual tax on each resident with a maximum payment for a family. The Newfoundland Government operates cottage hospitals in outport areas and, in conjunction with these, medical and hospital care is provided upon payment of an annual fee. Private prepaid medical care and hospital insurance plans have been developed extensively throughout Canada.

Preparing infant feedings in the Hospital for Sick Children, Toronto.





A significant advance in the realm of public health education has been made recently at Vancouver. Free medical advice is given to thousands of residents through a series of public meetings sponsored by the British Columbia Medical Association and the newspaper "Vancouver Province". Complete newspaper coverage makes the effects of the forum even more widespread.

Statistics on Health Institutions

Annual statistics concerning the institutional aspects of health are available from the Dominion Bureau of Statistics and include details on types of institution, size, ownership, costs, revenues, movement of patients, etc. The following table presents only a few of the more significant figures for 1952.

Summary Statistics of Hospitals, 1952

(Exclusive of Newfoundland)

Item	General	Special	Mental	Tuber- culosis	Total
	No.	No.	No.	No.	No.
Public Hospitals—					
Number reporting.....	721	56	66	56	899
Bed capacity.....	59,816	8,217	46,417	13,653	128,103
Average daily population.....	48,002	7,152	55,122	12,532	122,808
Admissions.....	1,723,335	36,717	17,788	14,396	1,792,236
Private Hospitals—					
Number reporting.....	61	126	6	1	194
Bed capacity.....	1,112	2,239	559	12	3,922
Average daily population.....	696	1,786	415	4	2,901
Admissions.....	30,595	14,657	2,559	3	47,814
Federal Hospitals—					
Number reporting.....	40	2	—	10	52
Bed capacity.....	11,092	234	—	1,858	13,184
Average daily population.....	8,699	205	—	1,749	10,653
Admissions.....	70,190	838	—	1,400	72,428
All Hospitals—					
Number reporting.....	822	184	72	67	1,145
Bed capacity.....	72,020	10,690	46,976	15,523	145,209
Average daily population.....	57,397	9,143	55,537	14,285	136,362
Admissions.....	1,824,120	52,212	20,347	15,799	1,912,478

The major part of the bed capacity available in Canada is in public general hospitals, that is, hospitals administered by municipal or provincial

governments and receiving grants from one or both of those sources to cover part of the operating costs. In 1952 there were 471 public general and special hospital beds—for other than tuberculosis and mental diseases—for every 100,000 of the population. The bed capacity in mental and tuberculosis hospitals was almost as large and the average daily number of patients under care was larger than in general and special hospitals, but it must be remembered that the turnover of patients in the latter is very much greater. The average length of patient stay in public general hospitals is 10 days, whereas in tuberculosis hospitals it is six months and in mental hospitals 9.5 months.

Hospitals operated by the Federal Government are conducted for special purposes connected with departmental administration, such as care of war veterans and members of the Armed Forces, quarantine and care of immigrants and lepers, care of Indians, etc.

Federal hospital construction grants, inaugurated in 1948, have supplemented provincial and local funds in the construction of over 400 hospitals and hospital additions including general, mental, tuberculosis, chronic and convalescent hospitals. During the five-year period of the grant, the construction has been completed or approved of accommodation for 46,000 beds, 6,000 bassinets and 5,700 nurses' beds, and of space in community health centres and combined laboratories exceeding 2,600 bed equivalents. Hospital facilities have been established for the first time in 144 communities across Canada.

Mat exercises to music help these little polio patients in the Sudbury General Hospital to regain the use of their muscles.





A Red Cross nurse at a northern Ontario outpost gives first-aid treatment to a workman injured in ice-cutting operations.

Non-Governmental Health Agencies

In addition to many local and provincial health organizations, major national agencies are: the Canadian Red Cross, which has converted its wartime blood-donor service into a civilian blood bank and transfusion service; the Victorian Order of Nurses, with well-established home-nursing and maternity services; the Order of St. John, with its training and service in first aid, home-nursing and blood grouping; and the Canadian Tuberculosis Association, whose provincial branches conduct mass X-ray surveys and educational programs. The Health League of Canada sponsors educational and publicity work in health generally and the Canadian Mental Health Association operates similarly in its field. The Department of National Health and Welfare was instrumental in forming the National Cancer Institute and the Canadian Arthritis and Rheumatism Society. These and other national health agencies have been established for purposes of education, publicity, research and other services.

•Welfare and Social Security

Voluntary groups and local authorities provided the first welfare services in Canada. Early provincial participation was highlighted by the first modern child protection Act passed by Ontario in 1893, the Ontario Workmen's Compensation Act of 1914 and the Manitoba mothers' allowances legislation of 1916. Since then, provincial welfare services have been developed, extended and improved through the establishment of provincial departments of welfare, or of health and welfare.

The joint federal-provincial legislation for old age pensions in 1927 brought the Federal Government into the social security field and, accelerated by the experience of the depression of the 1930's, a process of gradual extension of federal activity has taken place. Successively, pensions for the

blind, unemployment insurance, agricultural relief and family allowances were developed; either jointly with the provinces or by the Federal Government itself. In 1951 a major extension took place with the provision of the federal universal pension for all persons 70 years of age or over and the legislation reimbursing the provinces for part of the cost of allowances for blind persons and for assistance for needy persons aged 65 to 69. In 1953 the Federal Government announced its intention of co-operating with the provinces in establishing a program of allowances for permanently and totally disabled persons.

The Girl Guides Association, like other organized youth groups operating on a voluntary basis, contributes greatly to the wholesome development of young bodies and minds. Nearly 98,000 girls, 7 to 19 years of age, are being trained to become self-reliant, thoughtful, responsible and physically fit citizens.

A National Camp was held at Connaught Ranges, Ottawa, in July 1953. Guides from every province and from the Yukon and Northwest Territories enjoyed the gathering.



Federal Welfare Services

Most Federal Government welfare services are under the jurisdiction of the Department of National Health and Welfare, whose main functions in the field of welfare include the promotion of social security and the social welfare of the people of Canada, investigation and research, preparation and distribution of information on social and industrial conditions affecting the lives and health of the people, and co-operation with provincial authorities with a view to co-ordinating all efforts in the welfare field. The Welfare Branch administers family allowances, the universal old age pensions program, federal grants to the provinces for old age assistance, for allowances for blind persons and for the physical fitness program. Certain welfare services are administered by other government departments: allowances paid to veterans' dependants and to non-pensionable veterans are administered by the Department of Veterans Affairs (*see* p. 110); the Department of Citizenship and Immigration is responsible for the welfare of Indians (*see* p. 34); and the Department of Northern Affairs and National Resources co-operates in the care of indigent white and half-breed persons in the northern territories and in the payment of family allowances to Eskimos (*see* p. 36).

Family Allowances.—The Family Allowances Act, 1944, introduced to provide more equal opportunity for the children of Canada, provides for monthly payments to mothers (except in unusual circumstances) which must be spent exclusively for the maintenance, care, training, education and advancement of children.

Family Allowance Statistics, by Province, June 1953

Province or Territory	Families Receiving Allowances	Total Children	Average Allowance per Family	Average Allowance per Child	Total Allowances Paid, June 1953
	No.	No.	\$	\$	\$
Newfoundland.....	54,150	158,796	17.50	5.97	947,908
Prince Edward Island.....	13,199	35,187	16.12	6.04	212,726
Nova Scotia.....	94,608	228,617	14.61	6.05	1,382,377
New Brunswick.....	74,664	202,183	16.27	6.01	1,214,837
Quebec.....	569,845	1,519,238	16.13	6.05	9,192,618
Ontario.....	688,756	1,424,119	12.41	6.00	8,550,952
Manitoba.....	114,109	246,894	13.00	6.01	1,483,293
Saskatchewan.....	121,676	275,134	13.74	6.07	1,671,697
Alberta.....	149,117	326,225	13.14	6.01	1,959,719
British Columbia.....	175,513	352,075	12.08	6.02	2,120,085
Yukon and Northwest Territories	4,278	9,636	13.58	6.03	58,092
Canada.....	2,059,915	4,778,104	13.98	6.03	28,794,304

In general, all children under 16 years of age, resident in Canada, including Indians and Eskimos, are eligible for allowances. Children entering Canada, with the exception of children of certain Canadian citizens temporarily resident abroad, must complete one year's residence immediately prior to registration for the allowances. Allowances are not payable on behalf of a child who fails to attend school as required by the laws of the province in which he resides.

The allowances, which involve no means test and are not considered as income for tax purposes, are paid by cheque at the following monthly rates:

children under 6 years of age, \$5; children 6 to 9 years of age, \$6; children 10 to 12 years of age, \$7; and children 13 to 15 years of age, \$8. Current disbursements under the Family Allowances Act amount to about \$340,000,000 per annum.

Old Age Security.—Under the Old Age Security Act, commencing January 1952, a pension of \$40 a month is paid to all persons aged 70 or over, subject to a residence qualification of 20 years (or more in certain cases). This universal pension, a financial and administrative responsibility of the Federal Government, is financed by a 2-p.c. sales tax, a 2-p.c. tax on net corporation income, and a 2-p.c. tax not to exceed \$60 a year on the net taxable income of individuals required to pay income tax. In the year ended Mar. 31, 1952, pension payments exceeded the special tax revenues by about \$50,000,000 and in the following year by \$100,000,000. In each case the difference was met by a loan from the Consolidated Revenue Fund.

Old Age Security Statistics, by Province, June 1953

Province	Pension-ers	Total Net Payments	Province or Territory	Pension-ers	Total Net Payments
	No.	\$		No.	\$
Newfoundland.....	14,857	595,511	Manitoba.....	41,090	1,643,428
Prince Edward Island..	6,607	265,712	Saskatchewan.....	41,214	1,651,043
Nova Scotia.....	36,461	1,380,709	Alberta.....	40,971	1,643,915
New Brunswick.....	25,964	1,042,866	British Columbia.....	80,949	3,244,833
Quebec.....	149,077	5,923,035	Yukon and N.W.T.....	449	18,440
Ontario.....	258,356	10,346,332	Canada.....	695,995	27,755,824

tiny pin-prick can mean protection against diphtheria, whooping cough, lockjaw or smallpox. This protective service may be obtained at government expense in community immunization clinics.



Application forms for old age security are available at all post offices in Canada and may be submitted to the Regional Director of Old Age Security in the capital city of each province. Residents of the Yukon Territory and the Northwest Territories are required to send their applications to the Regional Director of Old Age Security at Ottawa.

Old Age Assistance.—The Old Age Assistance Act 1951 provides for federal contributions to the provinces for assistance, not exceeding \$40 a month, to persons between the ages of 65 and 69, subject to a residence qualification of at least 20 years. For a single person, total income, including the assistance, cannot exceed \$720 a year and for a married couple, \$1,200 a year. Where one of the spouses is blind, within the meaning of the Blind Persons Act, the total income of the couple, including the assistance, cannot exceed \$1,320 a year. Within the limits of the Act, each province is free to fix the amount of the maximum assistance payable, the maximum income allowed and other conditions of eligibility, but the Federal Government's contribution equals 50 p.c. of \$40 a month or of the assistance paid, whichever is less. Implementation of the program in a province is contingent on the province passing enabling legislation and signing an agreement with the Federal Government. All provinces and the Northwest Territories have signed agreements and the maximum assistance payable in each case is \$40 monthly, except in Newfoundland where it is \$30. Old age assistance is administered by the provinces under the terms of their agreements with the Federal Government.

Old Age Assistance Statistics, by Province, June 1953

Province or Territory	Recipients	Average Monthly Assistance ¹	Pensioners to Population Age 65-69	Federal Government's Contribution
	No.	\$	p.c.	\$
Newfoundland.....	5,097	29·18	56·01	74,664
Prince Edward Island.....	544	24·92	16·00	6,783
Nova Scotia.....	5,004	33·53	25·66	85,152
New Brunswick.....	5,508	36·80	38·25	102,601
Quebec.....	31,325	37·46	32·03	591,281
Ontario.....	20,575	36·81	12·86	381,257
Manitoba.....	4,591	37·88	16·40	89,741
Saskatchewan.....	4,327	36·64	14·77	82,053
Alberta.....	4,777	36·78	15·98	90,864
British Columbia.....	7,894	37·52	14·95	154,603
Yukon Territory.....	3	40·00	91·50	320
Northwest Territories.....	61	38·39	30·50	1,171
Canada.....	89,706	36·49	20·18	1,660,490

¹ Excludes supplements paid by certain provinces.

Allowances for the Blind.—The Blind Persons Act 1951, which became effective January 1952, continues in amended form the legislation relating to the payment of means-test pensions to blind persons under the Old Age Pensions Act 1927. The eligible age is 21 years or over, the maximum allowance \$40 a month and the residence requirement 10 years. The maximum yearly income limits, including the allowance, are: \$840 for a single person; \$1,040 for a single person with one or more dependent children; \$1,320 for a married couple one of whom is blind; \$1,440 for a married couple both of whom are blind. The implementation of the program is contingent on the signing of

Senior students in an institute for the training of deaf mutes are taught weaving, sewing and domestic science.



an agreement between the provincial and federal governments and each province is free to fix the amount of maximum allowance payable and the maximum income allowed, the Federal Government agreeing to contribute 75 p.c. of \$40 per month or of the allowance, whichever is less. All provinces and the territories have signed agreements, under each of which the maximum allowance is \$40 a month. The program is administered by the provinces.

Statistics of Allowances Paid under the Blind Persons Act, by Province, June 1953

Province or Territory	Recipients	Average Monthly Allowance ¹	Recipients to Population Age 20-69	Federal Government's Contribution
	No.	\$	p.c.	\$
Newfoundland.....	341	39.29	0.186	10,200
Prince Edward Island.....	80	37.66	0.147	2,230
Nova Scotia.....	723	38.56	0.205	20,982
New Brunswick.....	742	39.54	0.273	22,276
Quebec.....	3,010	39.17	0.129	89,477
Ontario.....	1,737	38.85	0.059	51,402
Manitoba.....	421	39.25	0.090	12,613
Saskatchewan.....	339	38.89	0.070	9,918
Alberta.....	383	38.20	0.067	11,125
British Columbia.....	494	39.18	0.067	14,654
Yukon Territory.....	2	40.00	0.026	60
Northwest Territories.....	11	40.00	0.129	330
Canada.....	8,283	39.02	0.099	245,267

¹ Excludes supplements paid by certain provinces.

Physical Fitness.—Under the National Physical Fitness Act 1943, the Federal Government makes available to the provinces on a per capita basis an amount not exceeding \$232,000 annually for the promotion of physical fitness and recreational programs. Financial assistance is given only to those

provinces that have signed agreements with the Federal Government and to the extent to which they match them dollar for dollar up to the maximum available. During 1952-53 seven provinces and the Northwest Territories participated in the program.

The Physical Fitness Division of the Department of National Health and Welfare acts as a clearing-house among the provinces for the latest information on fitness, recreation, community centres, physical education, athletics, sports and games, theatre arts and related activities, and also as a liaison office with national associations and with organizations in other countries. The National Council, established under the Act as an executive body, has sponsored and initiated a number of projects.

Unemployment Insurance.—A national system of unemployment insurance, administered by the Unemployment Insurance Commission, has been in operation since 1941. This service is dealt with on p. 241.

Provincial Welfare Services

The care and protection of neglected, dependent and delinquent children, care of the aged, social assistance or relief, and other special programs are governed by provincial legislation, although in many areas responsibility for such services rests with municipal or voluntary organizations. Provincial Departments of Welfare are taking increasing responsibility for the co-ordination and supervision of welfare services. While the programs and the methods of financing vary considerably, most provinces share the costs of some or all of the municipal services in organized areas and assume the total cost in unorganized territories.

Mothers' Allowances.—All provinces enacted legislation between 1916 and 1949 providing allowances to certain categories of needy mothers with dependent children under the age of 16 years. When the child is physically or mentally incapacitated, or attending school, the age limit may be extended in some provinces. "Needy mothers" include widows, foster mothers and wives whose husbands are mentally incapacitated. In some provinces, they also include deserted, divorced, legally separated and unmarried mothers and, in most provinces, those whose husbands are physically incapacitated.

Eligibility requirements vary by province and include a means test, one to five years residence, Canadian or British citizenship (in six instances) and, in some cases, the mother must be of good moral character. Total costs of the program are paid from provincial treasury funds, except in Alberta where a small portion of the allowance is charged to the municipality of residence.

The maximum allowance for a mother and one child varies from \$25 a month in Newfoundland and Prince Edward Island to \$62.50 a month in British Columbia, although the actual amount paid depends on the circumstances of the individual applicant. An additional amount is paid for each subsequent child and, in most provinces, for a disabled father living at home. In certain provinces a maximum allowance is set for a family, varying from \$50 in Prince Edward Island to \$150 in Manitoba. Where special need is apparent, supplementary allowances are usually available.

Workmen's Compensation.—For accidents occurring in the course of employment, compensation is payable to workers or, in fatal cases, to their

dependants in accordance with the law of each province. The cost of compensation and medical aid is borne by employers through a collective liability scheme administered by the province.

Monthly pensions at a fixed rate are paid to widows and children. Injured workmen receive from two-thirds to three-quarters of their earnings during total disablement. For partial disablement, the benefits are related to earning capacity before and after the accident. In determining compensation benefits, the maximum amount of annual earnings taken into account is \$2,500 in Prince Edward Island; \$3,000 in Newfoundland, Nova Scotia, New Brunswick, Quebec, Manitoba and Alberta; \$3,600 in British Columbia; and \$4,000 in Ontario and Saskatchewan.

Other Welfare Services

Many voluntary organizations are in existence whose efforts are directed to social welfare. The Canadian Welfare Council, a national association of public and private agencies, provides a means of co-operative planning and action by serving as a link between voluntary agencies and between public and voluntary agencies. Specialized organizations, such as the Canadian National Institute for the Blind, which functions in every field of welfare for the blind, and the Canadian Council of the Blind occupy somewhat similar roles in their particular fields. In areas where they have been set up, welfare councils co-ordinate and encourage local activities and community chests centralize financial campaigns. The work of the Young Men's Christian Association, the Young Women's Christian Association, the Catholic Youth Organization and the Young Men's Hebrew Association, the Boy Scouts, Girl Guides and similar youth organizations in what may be described as

the less fortunate members of the community whose income is not adequate for the necessities of life are assisted through the family allowance, the mothers' allowance and local relief programs. A social worker helps this mother budget her monthly funds so that there is enough to pay the rent and provide food and clothing for the family.



preventive rather than curative services cannot be overlooked. Most of the activities of these organizations are not susceptible to statistical measurement. The Canadian Red Cross Society, the Victorian Order of Nurses, and the Order of St. John, also perform many welfare services, though they are more properly designated as public health organizations.

Welfare Institutions

In 1950 there were 533 charitable, benevolent and welfare institutions operating in Canada, including 218 homes for adults, 102 homes for adults and children, 170 orphanages and Children's Aid Societies, and 43 day nurseries. Welfare organizations that do not operate institutions are not included in this number nor are licensed boarding homes for welfare patients. Of the total institutions reporting, 52 p.c. were operated by religious organizations, the provincial percentages of institutions thus operated ranging from a high of 88 in Quebec to a low of 32 in Nova Scotia, Ontario and British Columbia. Boards operated about 30 p.c., the provincial percentages ranging from 44 in Ontario to 10 in Quebec. The institutions operated with a total full-time staff of 9,573 and part-time personnel numbering 1,041. At the end of 1950 there were 39,681 persons under care, the average length of stay being 178 days. Most of the patients are either under 20 years of age or over 60.

Statistics of welfare institutions are collected only every five years.

• *Veterans Affairs*

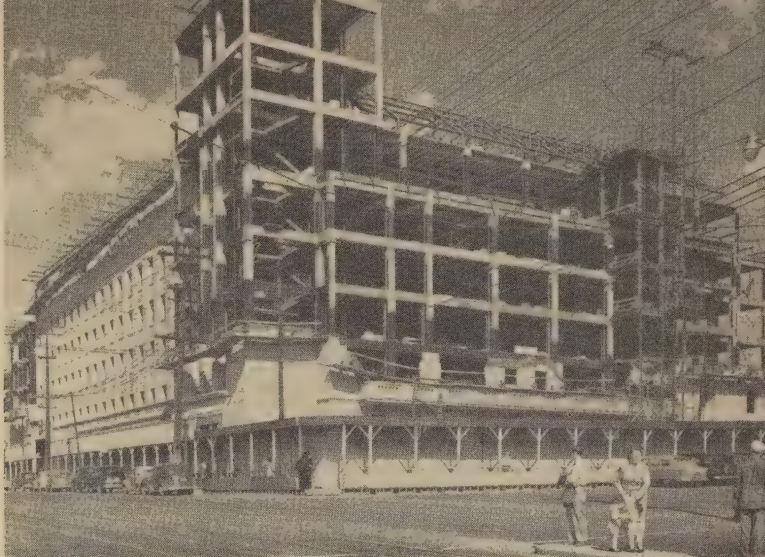
The Department of Veterans Affairs administers Canadian legislation relating to the rehabilitation, treatment and welfare of veterans, while the Canadian Pension Commission administers the Pension Act which, broadly, authorizes compensation for disability or death incurred in service. Administration is decentralized, there being 18 District Offices across Canada, in all provincial capitals and in most large cities.

For several years after World War II, the Department of Veterans Affairs was mainly occupied in rehabilitating and re-establishing the veterans in civilian life. This work has practically ended. A relatively small number of veterans of the Korean fighting who have left the Armed Services are now receiving re-establishment benefits. In some cases, children of men who died as a result of war service are being assisted to obtain post-secondary education.

The Department's most important current tasks are concerned with furnishing medical treatment for veterans with pensionable disabilities and providing for the welfare of those veterans who, because of advanced age or other disability, are unable to support themselves. The War Veterans Allowance is payable to such veterans under certain conditions.

Pensions for war disabilities to dependants of deceased servicemen amount to about \$127,000,000 annually. The Canadian Pension Commission is exclusively responsible for dealing with and adjudicating upon all matters related to disability, death and other payments authorized by the Pension Act, and by the Civilian War Pension and Allowances Act. Appeals by applicants against adverse decisions are dealt with by Appeal Boards. Applications for pensions and appeals against Canadian Pension Commission decisions are

Department of
Veterans Affairs
building which,
when completed,
will house all the
Ottawa personnel
of that Department.



prepared and presented for veterans by the Veterans Bureau, which is a Branch of the Department.

There are, across Canada, 13 major hospitals operated by the Department of Veterans Affairs, as well as a number of wings or pavilions for veterans attached to public general hospitals. The principal DVA hospitals are affiliated with university medical schools and are used as teaching hospitals, which ensures the maintenance of a high standard of treatment. Many of the specialists and heads of services are members of university medical faculties or are leaders in the medical profession. An extensive program of medical research is carried on, relating to particular conditions, such as arthritis, from which many veterans suffer. Veterans are treated free of charge for pensionable disabilities; also those who have served in a theatre of war and who are unable to pay may receive free treatment.

There are a number of other institutions operated by the Department which provide domiciliary care for physically handicapped or aged veterans in need of accommodation and surveillance.

The task of the officers of the Veterans Welfare Services Branch is to counsel, help and, on occasion, arrange for assistance available through the Department and other agencies. Trained social workers give consultative and other service, and special attention is directed to the training and placement in employment of disabled veterans.

Some 60,000 veterans have been established on farms, small holdings and commercial fishing establishments under the provisions of the Veterans' Land Act. This assistance represents a public investment of approximately \$250,000,000. Field supervisors, most of whom are trained agriculturists or horticulturists, advise settlers on full-time and part-time agricultural practice. In recent years, veterans have been encouraged and assisted to build their own homes under supervision of the Construction Branch of the Veterans' Land Act administration. The elimination of contractor profits from the cost of building has enabled veterans to build very good homes with a limited loan.



Oil refinery at Moose Jaw, Sask.

National Income

Economic Activity in 1953

Survey of Production

THIS analysis summarizes the year-to-year changes in the value of Canada's annual production of goods and services, and describes the way in which this total product of the country's economic activity is utilized to satisfy consumer wants, to provide government services, or to increase the nation's capital at home and abroad. The section on National Income deals with net national income at factor cost, gross national product and expenditure, and personal income and its disposition.* The section on Economic Activity in 1953 brings this analysis up-to-date and provides a brief survey of developments in the year just ended. The section on Survey of Production describes the net value of commodity production.

•National Income

National Income measures the value of the nation's total earnings from current production. It includes wages and salaries, dividends and interest, profits of corporations, and net income of unincorporated businesses including earnings of independent professionals. Any individual or business may derive income from several of these sources during the year; a wage-earner may collect interest from savings bonds in addition to wages from his job; a doctor, in addition to income from his practice, may obtain a salary for lecturing in a medical college; the farmer who earns the bulk of his income from farming operations, may own oil stocks and receive dividends on them. The division of the national income into the types of income noted above provides a useful analytical breakdown on the source of the nation's earnings from current production.

National income thus consists of the earnings of the factors of production—land, labour and capital. These earnings constitute costs of production and therefore measure the value of production at what is called "factor cost". To obtain a measure of the value of production at market prices, it is necessary to add two additional business costs, that is, indirect taxes (less subsidies*) and depreciation allowances and similar business costs. These items enter into the costs of goods and services (hence market prices), but do not form a part of the income of Canadians. The total thus computed is called the *Gross National Product*, and is defined as the value at market prices of all goods and services produced in a year by the labour, capital and enterprise of Canadian residents.

The manner in which the nation's total output is absorbed is indicated by the *Gross National Expenditure*. This aggregate is equal in total to the Gross

* The minor item of government subsidies is deducted since subsidies represent amounts contributed by government toward current costs of production.

National Product, but it measures the market value of all goods and services produced by tracing their disposition through sales to persons, to governments, to business for investment in durable capital assets or inventories, and to non-residents. Each of these sales categories contains an element of non-Canadian production, to the extent that it includes imports of goods and services produced by non-residents. Since the purpose is to arrive at a market price valuation of all goods and services produced by Canadian residents only, imports of goods and services must be deducted from the consolidated accounting of sales noted above.

National Income and Gross National Product.—The recovery of the economy from the great depression of the 1930's and the increase in production under the stimulus of the demands of war is indicated in the table on p. 116. While the figures are affected by changes in the price level during the period, it is nonetheless evident that a tremendous increase in production took place between the last pre-war year 1939 and the peak war year 1944. In fact, the increase in the volume of production between these two years was about 72 p.c.

In the reconversion period, war-deferred demand for civilian goods and services and for business capital requirements provided a powerful incentive to production. At the same time, foreign demand for Canadian products remained high, sustained to a considerable extent by government financial assistance to war-devastated countries which otherwise might have been forced to remain out of the Canadian export market. These heavy pressures from the demand side and the progressive relaxation of wartime controls were reflected in a rapid rise in the price level. By the end of 1948, however, prices were showing a pronounced tendency to level off, and the readjustment to a peace-time economy appeared to be largely completed.

The year 1949 thus marked the beginning of a new phase in Canada's post-war development. In that year, the Gross National Product in 'real' terms regained the peak level previously achieved in 1944, against a background of a more balanced relationship between supply and demand forces



Loading salt cod fish for the Portuguese market at Fortune, Nfld.



Large-scale harvesting operations just south of Regina, Sask.

and a stable price level. The outbreak of the conflict in Korea in mid-1950, however, touched off a further round of inflation and set in motion important new influences that remained dominant throughout 1951 and 1952. At the same time, the level of productive activity in 'real' terms increased at an annual rate of about 6 p.c.

The Gross National Product in 1952 was \$23,011,000,000, compared with \$21,450,000,000 in 1951. Almost all of this was accounted for by an expansion in the physical volume of production, only a minor portion reflecting the effect of changing prices. Accompanying the rise in production was a gain of about 1 p.c. in the employed labour force. The number of persons with jobs in agriculture declined by about 6 p.c., while non-agricultural employment was 2.5 p.c. higher.

The National Income in 1952 was estimated at \$18,135,000,000, an increase of 6 p.c. over the preceding year. While income originating in government, construction and service groups showed a larger advance than the over-all increase of 6 p.c., the gains in manufacturing and mining were below the general average. Income originating in agriculture and other primary industries declined.

Wages and salaries accounted for a substantially greater share of the National Income in 1952 than in the preceding year—59.2 p.c. compared with 56.5 p.c.—while military pay and allowances also took a larger share. On the other hand, the proportion going to investment income declined, mainly as a result of the fact that corporation profits were lower in 1952. Accrued net income of farm operators from farm production also took a substantially smaller portion of the national income in 1952, reflecting lower live-stock prices and higher farm-operating costs. The share going to net income of unincorporated business proprietors declined moderately.

The month-to-month advances registered in wages and salaries in 1952 were quite steady throughout the year and, for the year as a whole, amounted to a gain of about 11 p.c. over 1951. These increases were achieved in a period in which prices were tending downward. Despite the downward trend, however, the annual average of consumer prices was still 2 p.c. above the 1951 average. For the year as a whole the advance in 'real' income was very substantial, amounting to approximately 9 p.c. This was a key factor in the continued expansion of personal expenditure on consumer goods and services.

Net National Income at Factor Cost and Gross National Product at Market Prices, Significant Years, 1929-52

(Millions of Dollars)

Item	1929	1933	1939	1944	1946	1949	1950	1951	1952
Wages, salaries and supplementary labour income.	2,929	1,778	2,575	4,940	5,323	7,761	8,311	9,676	10,743
Military pay and allowances.....	8	8	32	1,068	340	115	137	201	270
Investment income.....	836	299	917	1,829	1,975	2,445	3,155	3,642	3,666
Accrued net income of farm operators from farm production.....	408	74	385	1,185	1,112	1,504	1,503	2,106	1,934
Net income of other unincorporated business....	608	293	464	804	1,071	1,369	1,444	1,503	1,522
Net National Income at Factor Cost.....	4,789	2,452	4,373	9,826	9,821	13,194	14,550	17,128	18,135
Indirect taxes less subsidies.....	681	537	733	1,111	1,269	1,830	2,018	2,468	2,687
Depreciation allowances and similar business costs.....	709	547	610	957	903	1,437	1,636	1,889	2,070
Residual error of estimate.	-13	+16	-9	+60	+33	+1	-1	-35	+119
Gross National Product at Market Prices.....	6,166	3,552	5,707	11,954	12,026	16,462	18,203	21,450	23,011

Gross National Expenditure.—Gross National Expenditure and its major components are shown in the tables on p. 118, the one in current dollar values and the other in terms of constant (1949) dollars. In the latter table, the figures have been adjusted for price fluctuations so that changes in the physical volume of production may be measured.

Three fairly clear-cut stages are discernible in the post-Korean phase of Canada's development. The first stage, covering the period mid-1950 to about mid-1951,* was one of heavy abnormal demands for consumer goods and business inventories, based on fears of shortages and expectations of higher prices. In this period, defence expenditures played a limited though increasingly important role, with the rearmament program mainly in the preparatory stages. Prices rose very rapidly.

The second stage began broadly about the middle of 1951, when a reaction to this heavy forward buying apparently set in and these inflated consumer and business demands subsided against a background of anti-inflationary

* Intra-year movements in Gross National Expenditure are published in DBS publication, *National Accounts Income and Expenditure, by Quarters, 1947 to 1952*.

measures enacted by the Federal Government; the volume of housing fell off sharply. The major expansionary elements in the economy in this period were a growing volume of requirements for defence, investment in non-residential construction, machinery and equipment, and exports. By early 1952 the downward trend of prices had become general.

A third pattern is discernible beginning early in 1952, when a strong revival of consumer purchasing and a sharp upturn in housing outlays were superimposed on the growing volume of expenditures in other sectors. By the middle of 1952, the volume of consumer purchasing was once again exerting an important expansionary influence, based on the increase in real income which had been achieved since the beginning of the year, while housing outlays were continuing to rise. The trend of prices was downward throughout the year.

The revival of consumer purchasing in 1952 pushed the level of personal expenditure on consumer goods and services to a figure 8 p.c. above that of the previous year in value terms, and 6 p.c. higher in terms of physical volume. Further noteworthy developments were the rapid growth of government defence expenditures, a sharp decline in inventory accumulation, and the re-emergence of a favourable balance on current account in the nation's

The Argonaut Mine, a new iron-ore development on Vancouver Island, was British Columbia's first entry into the iron-ore industry. A second producer, Texada Mines, has since brought two orebodies into production and extensive exploration is being carried out on other known deposits.



external trade. This latter factor resulted from a combination of more favourable terms of trade and a more rapid climb in export volume than in import volume.

The effect of these developments is reflected in the pattern in which the nation's output was absorbed in 1952. Consumers and government together absorbed a larger amount of output in 1952 than was available from the increase in production. The gap not covered by the production increment was met out of resources made available by the sharp decline in inventory accumulation in 1952, and by an increase in the volume of imports.

Gross National Expenditure at Market Prices, Significant Years, 1929-52

(Millions of Dollars)

Item	1929	1933	1939	1944	1946	1949	1950	1951	1952
Personal expenditure on consumer goods and services.....	4,393	2,887	3,904	6,187	7,977	10,963	12,029	13,297	14,334
Government expenditure on goods and services ¹ ..	682	526	735	5,022	1,832	2,128	2,326	3,212	4,216
Gross Domestic Investment—									
Construction, machinery and equipment.....	1,330	239	605	859	1,398	2,968	3,216	3,810	4,138
Change in inventories..	61	-82	331	-46	519	231	960	1,620	278
Exports of goods and services ²	1,632	826	1,451	3,561	3,210	4,011	4,183	5,089	5,581
Less: Imports of goods and services.....	-1,945	-828	-1,328	-3,569	-2,878	-3,837	-4,513	-5,613	-5,417
Residual error of estimate.	+13	-16	+9	-60	-32	-2	+2	+35	-119
Gross National Expenditure at Market Prices	6,166	3,552	5,707	11,954	12,026	16,462	18,203	21,450	23,011

¹ Includes UNRRA, Mutual Aid, etc., of \$960,000,000 and \$97,000,000 in the years 1944 and 1946, respectively.

² Excludes UNRRA, Mutual Aid, etc.

Gross National Expenditure in Constant (1949) Dollars, Significant Years, 1929-52

(Millions of Dollars)

Item	1929	1933	1939	1944	1946	1949	1950	1951	1952
Personal expenditure on consumer goods and services.....	6,110	5,065	6,334	8,340	10,262	10,963	11,645	11,593	12,241
Government expenditure on goods and services..	1,013	852	1,195	6,445	2,391	2,128	2,216	2,727	3,493
Gross Domestic Investment—									
Construction, machinery and equipment.....	2,211	488	1,104	1,192	1,865	2,968	3,047	3,210	3,382
Change in inventories..	73	-190	514	-117	344	73	591	1,000	391
Exports of goods and services.....	2,614	1,954	2,972	5,201	4,136	4,011	4,034	4,418	4,883
Less: Imports of goods and services.....	-3,170	-1,830	-2,672	-4,922	-3,877	-3,837	-4,210	-4,701	-4,907
Residual error of estimate.	+22	-34	+18	-98	-50	-2	+2	+31	-100
Adjusting entry ¹	77	21	34	261	98	—	—	—	—
Gross National Expenditure in Constant Dollars.....	8,950	6,326	9,499	16,302	15,169	16,304	17,325	18,278	19,383

¹ Data prior to 1949 have been converted mechanically from a 1935-39 base to a 1949 base. The residual difference is produced by changes in the major group weighting system.



Line construction crews, during September 1953, completed the stringing of tie-lines across the Detroit and St. Clair Rivers, linking the Ontario Hydro and Detroit Edison Power Systems. With the power reserves of each system available to the other, neither utility is dependent upon one type of power generation, since Detroit Edison is essentially a fuel-electric system and Ontario Hydro is predominantly hydro-electric.

Personal Income, Personal Direct Taxes and Personal Saving.—

Personal Income is the sum of all current receipts of income, whether in cash or in kind. It differs from National Income in that it excludes all current earnings not paid out to persons, such as undistributed profits, and includes receipts that have not been earned in the course of production, that is, transfer payments such as family allowances and unemployment insurance benefits.

Personal income amounted to \$17,073,000,000 in 1952, an increase of 9 p.c. over 1951. Wages, salaries and supplementary labour income rose by 11 p.c., or somewhat more than the average. Interest, dividends and net rental income of persons increased by 8 p.c., while net income of unincorporated business (including net income of farm operators) fell by 6 p.c. Transfer payments (excluding government interest) rose substantially by \$343,000,000 or 32 p.c., owing in the main to the new federal old age security program.

Personal direct taxes rose by \$292,000,000 or 28 p.c. over 1951. This increase was almost wholly the result of the rise in personal income-tax collections by the Federal Government. Personal direct taxes comprised 6.5 p.c. of personal income in 1951 and 7.7 p.c. in 1952. Personal saving amounted to \$1,419,000,000 in 1952, compared with \$1,386,000,000 in 1951. It is interesting to note that in 1952 the recovery of consumer spending was not

accompanied by any appreciable drop in the ratio of personal saving to disposable income.* It appears that the high level of consumer spending in 1952 was being supported by the increases in real income, rather than by a decline in the personal savings ratio.

Personal Income, by Source, Significant Years, 1929-52

(Millions of Dollars)

Source	1929	1933	1939	1944	1946	1949	1950	1951	1952
Salaries, wages and supplementary labour income.....	2,929	1,778	2,575	4,940	5,323	7,761	8,311	9,676	10,743
Less: Employer and employee contributions to social insurance and government pension funds.....	-27	-21	-35	-133	-149	-239	-256	-313	-336
Military pay and allowances.....	8	8	32	1,068	340	115	137	201	270
Net income of agriculture and other unincorporated business.....	1,015	396	899	2,010	2,161	2,969	2,846	3,645	3,431
Interest, dividends and net rental income of persons	616	471	602	836	957	1,157	1,295	1,420	1,540
Transfer Payments to Persons—									
From government (excluding interest).....	93	181	229	259	1,106	950	1,033	1,030	1,370
Charitable contributions by corporations.....	5	2	6	11	12	23	25	27	30
Net bad debt losses of corporations.....	18	28	12	11	11	21	23	25	25
Personal Income.....	4,657	2,843	4,320	9,002	9,761	12,757	13,414	15,711	17,073

Disposition of Personal Income, Significant Years, 1929-52

(Millions of Dollars)

Disposition	1929	1933	1939	1944	1946	1949	1950	1951	1952
Personal Direct Taxes—									
Income taxes.....	34	38	62	772	711	677	612	891	1,177
Succession duties.....	16	13	28	39	54	55	66	69	71
Miscellaneous.....	18	18	22	27	31	57	62	68	72
Totals, Direct Taxes...	68	69	112	838	796	789	740	1,028	1,320
Personal expenditure on consumer goods and services.....	4,393	2,887	3,904	6,187	7,977	10,963	12,029	13,297	14,334
Personal Saving—									
Net changes in farm inventories.....	-129	-33	60	-103	-57	-72	131	354	238
Other.....	325	-80	244	2,080	1,045	1,077	514	1,032	1,181
Totals, Personal Saving...	196	-113	304	1,977	988	1,005	645	1,386	1,419
Personal Income.....	4,657	2,843	4,320	9,002	9,761	12,757	13,414	15,711	17,073

•Economic Activity in 1953

The high levels of production, employment and income which characterized the economy in 1952 were exceeded in 1953. Figures for the first nine months indicated that the value of the Gross National Product for the year

* Disposable income equals personal income less personal direct taxes.

cutting beef at
a large meat-
packing plant.



would be in excess of \$24,000,000,000, a gain of about 5 p.c. over the 1952 value. Prices generally showed little change from 1952 levels so that the increase in the physical volume of production in this period was about 4 p.c. A major factor associated with this gain in 'real' output in 1953 was a further rise in the volume of consumer purchasing, which absorbed an amount equal to three-fourths of the production increment in the first nine months of the year. This development was in turn connected with a continuation of the marked growth in real incomes which had been so prominent a feature of the preceding year. Most other spending groups absorbed a substantially larger volume of goods and services in 1953 than in the previous year, with resources made available both from the production increment and from a large rise in the volume of imports.

Gross domestic investment in durable capital assets, including housing, continued at a very high rate in 1953 and in the nine-month comparison exceeded the previous year by about 10 p.c. Housing alone showed a value gain of 35 p.c. Business inventory accumulation was quite substantial in the first nine months of 1953, in contrast to the preceding year when additions to business stocks were very small; the 1953 increases, however, appeared to be in proportion to the gains in non-farm output of goods and services. Government expenditure on goods and services also increased moderately over 1952; however, the increase in defence expenditures was the smallest of the past three years, indicating a levelling-off in this important component of national expenditure. Exports showed little change from 1952 but the increase in imports was very large, amounting to 12 p.c.; thus a substantial deficit was sustained on current account.

In summary, the keynote of the year 1953 was a high and steady level of activity. With prices stable and personal incomes showing pronounced gains, the Canadian consumer was in a more favourable buying position than at any time in recent years. As the year came to a close, Canadian business appeared to be entering a period of more intensive competition, in contrast to

the period since the war outbreak in Korea, when the situation generally favoured the seller. Certain important industries such as electrical appliances, textiles and farm implements were facing special problems of maintaining markets and sales in 1953 but, on balance, the situation at the close of the year was one of continued prosperity.

Production and Employment.—The increase in real output of goods and services of about 4 p.c. in the first nine months of 1953 was not shared equally by all industrial groups. Declines in the production of primary goods were offset by important advances in secondary and tertiary industries. Agricultural production showed a drop of over 5 p.c. from the high levels of the previous year, largely attributed to reduced outturns of field crops. The 1953 wheat crop is estimated at 614,000,000 bu., compared with the record 688,000,000 bu. harvested in 1952. If agriculture is excluded from the comparison, the increase in real output amounted to 5 p.c.

The volume of operations in the woods receded further in 1953, following a considerable decline during the previous year. Reduced foreign demand for pulp and pulpwood was a contributing factor. Fishing and trapping showed a similar downward trend. By contrast mineral production was at an all-time high as it recorded an advance of nearly 8 p.c. in the nine-month comparison. Accounting for a major part of this increase were gains of 33 p.c. in producers' shipments of crude petroleum and of 22 p.c. in extraction of iron ore. The generation of electric power was about 7 p.c. greater.

Manufacturing production rose more than 8 p.c. during the first three-quarters of 1953, in contrast to the very small decline recorded in the 1951-52 comparison. Non-durable manufactures showed a gain of about 5 p.c. in the nine-month comparison, while output of durables jumped 12 p.c. In the later months of the year the margin of increase over 1952 was not as wide as in the earlier months, but this was more a reflection of the upsurge in activity during the latter part of 1952 than of any general weakening in the current picture.

In the non-durables sector, advances in the nine-month comparison were general as the majority of industries recorded sizeable gains over 1952. The largest increases occurred in tobacco, rubber, leather, textiles, clothing and petroleum products. The larger percentage advance of durable manufactures reflects the continuation of the post-war shift in consumer expenditures towards relatively greater purchases of major durable goods. An additional factor was the significant rise in real earnings in 1953. Federal expenditures on defence materials were also somewhat higher than during the previous year.

Largely as a result of strong gains in the motor-vehicle and aircraft industries, volume of activity in the transportation equipment industry showed an increase of 23 p.c. Contributing to an advance of over 25 p.c. in the electrical apparatus and supplies industry were large increases in production of electric refrigerators and radio and television receiving sets. Increased construction activity largely accounted for an advance of 17 p.c. in output of non-metallic mineral products. Production in the iron and steel industry was only slightly greater than during the first nine months of 1952 and output of agricultural implements and wire products was considerably below the levels of the previous year.



Construction on the Kitimat-Kemano \$550,000,000 aluminum project in British Columbia is proceeding rapidly. Initial production is expected to start in the summer of 1954. The project involves the development of over 2,200,000 h.p. of hydro-electric energy for an eventual annual output of 500,000 metric tons of aluminum.

The volume of construction, as indicated by mid-year data on investors' intentions, exceeded that of the previous year by about 6 p.c., indicating a continuation of the strong upward trend of recent years. Contributing largely to the advance was the sharp increase in residential housing. Completions of new dwelling units during the first nine months of 1953 were one-third higher than during the corresponding period of 1952.

In the services sector, real output showed moderate increases. Activity in the transportation, communications and storage group showed a gain of more than 3 p.c. Declines were recorded in railway ton-miles and in urban and inter-urban transport systems, but these were offset by strong gains in such activities as communications, trucking, water transport, oil pipelines and storage. The volume of retail and wholesale trade advanced by 5 p.c.

Turning to total employment, the civilian labour force in the first nine-months of 1953 averaged only slightly higher than during the same period of 1952. The number of persons with jobs was about 1 p.c. greater. While the number of persons with jobs in agriculture declined by 5 p.c., non-agricultural employment was about 2 p.c. greater. Manufacturing employment rose by 5 p.c. to show the largest relative advance in the industrial composite. The pattern of increases was similar to that of production as employment in durable goods gained considerably more than in non-durable manufactures. Average weekly hours showed no change in the nine-month comparison.

Personal Income and Expenditure.—Personal income continued to rise during 1953 showing a gain of 6 p.c. over 1952 in the nine-month comparison. Labour income, which accounts for about two-thirds of personal income, showed a steady increase throughout the year, with gains over 1952 recorded in each of the first nine months. For the period as a whole, an increase of approximately 10 p.c. occurred. This increase was widespread throughout the various industrial groups and only in the primary industry component, which includes forestry, was a small decline recorded. Increased employment and higher average weekly earnings both contributed to the gain in labour income, with the latter factor accounting for the greater share.

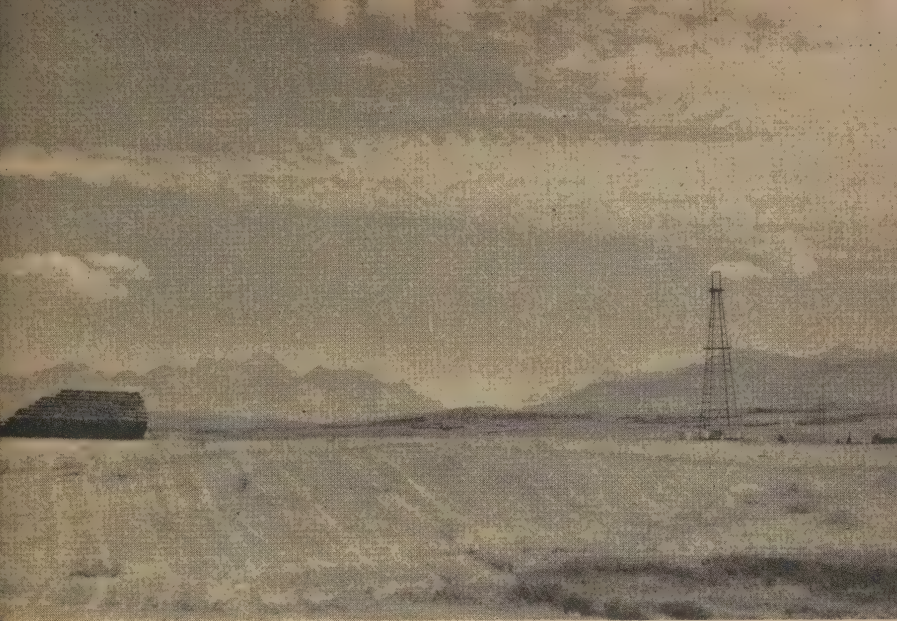
Other types of personal income include interest, dividends and net rents, net income of farm operators, incomes of individual enterprisers, such as storekeepers, construction contractors and doctors, and transfer payments. Interest, dividends and net rental income of persons increased during 1953 by about 8 p.c. in the nine-month comparison. On the other hand, net income received by farm operators from farm production was down by 12 p.c. and, for the year as a whole, was expected to show a corresponding decline. This development reflected smaller receipts from the sale of farm products and a reduced value of inventory changes of farm-held live stock and grains. Net income of other unincorporated business enterprisers showed gains of about 7 p.c. relative to the previous year, while transfer payments from government increased by 6 p.c.

Disposable income—the portion of personal income remaining after payment of personal taxes—also rose in 1953. The increase in dollar terms was somewhat less than that of personal income since there was a moderate advance in personal income taxes; from January to September 1953, direct personal taxes were 11 p.c. above the corresponding period of the previous year. This increase occurred despite the reduction in the personal income tax rate which became effective at mid-year, reflecting the very substantial growth in the level of personal income.

Personal expenditure on consumer goods and services showed a large gain in 1953, amounting to 6 p.c. over the previous year on the basis of the nine-month totals. Durable goods purchases showed the largest percentage increase, amounting to 18 p.c.; retail sales of motor-vehicles and household appliances were up by 10.2 p.c. and 11.4 p.c., respectively. This buoyancy in the durable goods sector was accompanied by a substantial increase in instalment buying in 1953. Less spectacular, but nonetheless important, was the broad growth of consumer purchasing in the other main consumer-goods sectors, including food, clothing, hardware, lumber and building material, drugs and jewellery. At mid-year, a tendency appeared to be under way to shift from durable goods purchases to the non-durable sector.

The proportion of personal disposable income accounted for by personal saving was somewhat higher in 1953 than in the previous year. Hence, despite the large increase in consumer purchasing in 1953, Canadians were continuing to save a substantial part of their income. These gains in consumer purchasing were thus coming out of increased earnings rather than through encroachment upon the current rate of saving.

Capital Expenditures.—During 1953 the proportion of the national product devoted to replacing and augmenting the nation's stock of productive capital



Bruder No. 1 well in the Alberta Pincher Creek wet gas field. Completed to a depth of 12,415 feet, the well came in with a record flow of 168,000,000 cu. feet of natural gas a day. Production is awaiting provincial authorization for the export of gas.

and housing continued at the high level that has been a distinguishing feature of the economy in recent years. In the first nine months of the year gross domestic investment in durable capital assets, including housing, amounted to almost 19 p.c. of total gross national product. Investment in capital assets serves several important ends in the economy. Not only does it

A vast deposit of high-grade iron ore, once hidden under the bed of Steep Rock Lake, 140 miles west of Port Arthur, Ont., was the source of 1,250,000 tons of ore shipped in 1953. It was necessary to pump billions of gallons of water from the lake and remove the over-burden before starting open-pit mining. Only a small portion of the lake bed is being worked (foreground) while dredges continue to remove silt.



provide a market for the products of many Canadian industries but, by contributing large amounts to the nation's payroll, it stimulates demand for thousands of consumer goods. Capital expenditures also provide an outlet for the investment of savings of business men, professional workers and salaried employees and wage-earners. Finally, the growth in the productive facilities of Canada is a necessary condition to further increases in the nation's economic well-being and living standards.

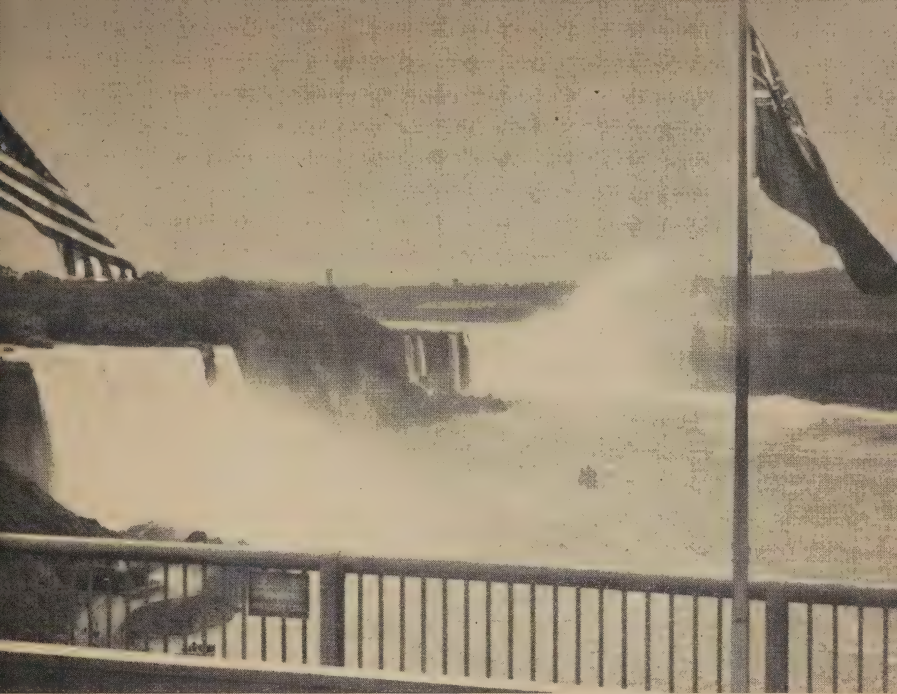
Outstanding in its contribution to the year's investment program has been the rapid rise in volume of new housing construction, which advanced by 35 p.c. over 1952 in the nine-month comparison. It is expected that the total value of work put in place on new homes and apartments in 1953 will exceed \$1,000,000,000. Recent legislation providing for lower down-payments on new housing will be conducive towards maintenance of this high rate of activity.

In the field of private non-residential investment, which includes construction of factories, stores and office buildings, and business purchases of new machinery and equipment, earlier anticipations of increased volume have been substantially confirmed; in the first nine months of the year, new non-residential construction was up 5.5 p.c. over the 1952 period, and new machinery and equipment expenditures were up 5.6 p.c. Part of this apparent increase was the result of higher unit costs reflecting higher wage rates for construction and factory employees, but volume increases were also significant. There was relatively more emphasis on commercial and institutional development in 1953 than in 1952 and less emphasis on industrial development.

Inventories.—Net additions to inventories, a form of investment not included in the capital expenditures, were much more substantial in 1953 than in 1952. Whereas the change in inventories in 1952 amounted to \$278,000,000, inventory accumulation in 1953 was more than twice as great as the 1951 total on the basis of a nine-month comparison. Inventory holdings by manufacturers, wholesalers and retailers, showed very substantial increases. Farm inventory holdings and grain in commercial channels also increased substantially during 1953, reflecting mainly the large grain crop in the western provinces. On balance, the relatively large additions to inventory holdings in 1953 reflected almost entirely a change in the volume of stocks, since prices remained fairly constant during the year.

Foreign Trade.—In the first nine months of 1953, Canada sustained a current account deficit amounting to \$386,000,000 from international transactions in goods and services. This compared with a surplus of \$138,000,000 in the same period of 1952. The major factors underlying this change in the current account balance were a substantial increase in merchandise imports and a small decline in merchandise exports. The gain in imports was a reflection of the higher levels of both consumer purchasing and capital investment in Canada. There was also a general improvement in world supplies of goods at competitive prices. Imports from the United States rose by 15 p.c. in the nine-month comparison, and imports from the United Kingdom by 38 p.c.

The moderate decline in exports was associated with lower prices for some commodities. While merchandise exports to the United States rose sharply in the first nine months of 1953, exports to the United Kingdom and to other overseas countries fell by 12 p.c. and 16 p.c., respectively.



Twin Niagara cataracts from Rainbow Bridge at the International Boundary. Remedial works, designed to preserve and enhance the scenic beauty of the Falls and River and at the same time ensure their most effective use for power, were authorized by the Canadian and United States Governments in July 1953.

Price Movements.—The most characteristic feature of prices during 1953 was their relative stability. Wholesale prices levelled out in the last quarter of 1952 (prior to which time they were declining) and remained steady in 1953, while the consumer price index showed little change from the level reached after a minor decline in the early part of 1952. On the basis of a nine-month comparison, wholesale prices in 1953 averaged 2·8 p.c. below the same period a year earlier, while the consumer price index was approximately 1·2 p.c. lower. Residential and non-residential building material prices showed little change from 1952 levels. However, the Canadian farm products index fell almost steadily during 1953, with declines recorded in both field and animal products. In the first nine months of the year, the index averaged 12·8 p.c. below that for the corresponding period of 1952.

Export prices were stable in the first three-quarters of 1953, but averaged 2·8 p.c. below the level of the previous year. Import prices showed no important change in the same period, but averaged about 2·2 p.c. lower than a year earlier.

•Survey of Production

The scope of this section is limited to the actual production of commodities. The activities of such industries as transportation, communication, trade, finance, etc., are excluded except as they are indirectly reflected in the

value of output of the "commodity-producing" industries. This is in contrast to the scope of the widely used "gross national product" series which encompasses all industries. Net production, or "value added", is generally considered a more significant measure than gross value of production and is consequently stressed in the following analysis. It is obtained by deducting from the total gross value of output, the cost of materials, fuel, purchased electricity and process supplies consumed in the production process.

Current Trends.—The total net value of Canadian commodity production more than doubled in the six years following the close of World War II, rising from \$6,235,000,000 in 1946 to \$12,934,000,000 in 1951. Much of this expansion was due to higher prices, the general index of wholesale prices rising by 73 p.c. in the period. However, the post-war release of accumulated demand for consumer goods both here and abroad, the record investments made in housing, plant and equipment, and the development of the defence program have contributed greatly to the 'real' expansion of the Canadian economy. The volume index of industrial production rose by 32 p.c. during this period and the volume of agricultural production by 24 p.c.

Further increases in the values of both primary and secondary production are indicated for 1952, although at a reduced rate as a result of the decline of farm and wholesale prices. Volume increases continued, however; the index of industrial production rose by nearly 3 p.c. over 1951 and, as a result of the production of record crops, the volume of agricultural output advanced 6 p.c.

During the first eight months of 1953, the industrial production index increased by about 9 p.c. over the corresponding period of 1952, but wholesale prices were 3 p.c. lower.

Industrial Distribution.—Of the eight commodity-producing industries, construction has shown the greatest relative increase during the post-war period. Although a great part of the advance represented sharp gains in building activity, the rise in construction costs was also an important factor. Net value of manufacturing output doubled between 1946 and 1951. While the advance in prices accounted for the major part of this gain, volume of output increased more than 27 p.c. During this period, the manufacturing industry accounted for roughly 55 p.c. of total commodity output, somewhat less than during the war years but more than its share in the pre-war period.

The total value of primary production rose by almost 88 p.c. from 1946 to 1951. During most post-war years, the primary industries of agriculture, forestry, fishing, trapping, mining and electric power accounted for approximately 35 p.c. of the total value of commodity production, a rather smaller proportion than in the pre-war years.

Throughout the period, agriculture has remained Canada's leading primary industry, providing rather more than 20 p.c. of the total value of commodity production in most years. Value of mineral production advanced rapidly during the post-war period, increasing 139 p.c. The corresponding rise in the physical output index for mining was 67 p.c., indicating a great post-war expansion for the industry in 'real' terms. Value of output in the electric power industry rose 65 p.c. and the volume of production index in this field advanced by nearly 38 p.c., showing that the greater part of the advance represented a 'real' increase in output. The total value of production in the forestry industry was almost double the corresponding 1946 figure. Value of

output in the fishing and trapping industries moved irregularly during the post-war years, the latter showing a depressed condition in the later years.

Net Value of Production, by Industry, 1946 and 1949-51

Industry	1946	1949	1950	1951
	\$	\$	\$	\$
Primary Production—				
Agriculture.....	1,468,027,000	2,019,279,000	1,883,036,000	2,685,435,000
Forestry.....	249,937,863	346,455,391	381,326,000	484,264,268
Fisheries.....	67,161,502	67,457,941	82,191,043	102,026,979
Trapping.....	31,077,867	15,296,615	15,204,419	19,791,933
Mining.....	322,214,083	570,215,430	657,328,669	770,143,233
Electric power.....	220,511,067	270,126,982	313,347,197	363,642,975
Totals, Primary Production.....	2,358,929,382	3,288,831,359	3,332,433,328	4,425,304,388
Secondary Production—				
Manufactures.....	3,467,004,980 ¹	5,330,566,434 ¹	5,942,058,229 ¹	6,940,946,783
Construction.....	408,695,662	1,066,649,000	1,284,065,000	1,568,179,000
Totals, Secondary Production.....	3,875,700,642	6,397,215,434	7,226,123,229	8,509,125,783
Grand Totals.....	6,234,630,024 ¹	9,686,046,793 ¹	10,558,556,557 ¹	12,934,430,171

¹ Exclusive of fish processing in Newfoundland.

Provincial Distribution.—Substantial increases in net value of output were shown by all provinces and territories (Newfoundland not included in this comparison) between 1946 and 1951. The largest percentage gain, amounting

Power installations at Shawinigan Falls, Que., one of six hydro-electric developments on the St. Maurice River. Installed capacity of the plants at Shawinigan Falls is now 416,500 h.p. and the combined output of all plants on the St. Maurice River is 1,110,550 h.p.



to 130 p.c., was recorded by Saskatchewan, and resulted from the bumper grain crops produced in 1951. Alberta was next with an increase of 124 p.c. followed by Ontario and British Columbia each showing advances of 115 p.c. Commodity output in Quebec rose 92 p.c., in Manitoba 77 p.c., in New Brunswick 66 p.c., in Prince Edward Island 62 p.c. and in Nova Scotia 60 p.c.

Net Value of Production, by Province, 1946 and 1949-51

Province or Territory	1946	1949	1950	1951
	\$	\$	\$	\$
Newfoundland.....	...	74,878,122	83,136,707	130,772,998
Prince Edward Island.....	21,282,196	27,506,835	28,917,330	34,416,139
Nova Scotia.....	187,304,589	257,847,743	260,278,891	299,366,308
New Brunswick.....	155,127,789	206,223,563	222,006,622	258,264,609
Quebec.....	1,709,985,392	2,520,821,801	2,747,804,568	3,285,039,750
Ontario.....	2,475,316,690	4,006,778,159	4,509,498,998	5,320,040,260
Manitoba.....	314,851,928	461,371,653	476,515,001	558,174,272
Saskatchewan.....	378,513,591	611,596,461	532,341,926	872,549,432
Alberta.....	422,572,540	666,202,750	707,905,769	945,438,967
British Columbia ¹	563,346,792	840,180,749	973,109,773	1,212,253,561
Yukon and Northwest Territories ¹	6,328,517	12,638,957	17,040,972	18,113,875
Totals.....	6,234,630,024	9,686,046,793	10,558,556,557	12,934,430,171

¹ Forestry and construction figures for the Yukon and Northwest Territories are included with those for British Columbia.

Per Capita Output.—The rapid advance in commodity production since the end of the War was accompanied by a considerable growth in population. While the gain in per capita figures is not as impressive as that of aggregate output, nevertheless it reflects a considerable achievement. The national per capita value of commodity production (excluding Newfoundland) rose from \$507 in 1946 to \$938 in 1951, a gain of 85 p.c. As wholesale prices increased by about 73 p.c. during the same period, a 'real' advance in per capita output is indicated. Ontario continued by a wide margin to hold first place with a per capita figure of \$1,157 in 1951. Saskatchewan, because of large farm returns, displaced British Columbia in second position. The "wheat province" boasted a per capita output of \$1,049. British Columbia had an output of \$1,034, Alberta \$1,007, Quebec \$810 and Manitoba \$719. Per capita output in the Maritime Provinces has always been far below the Canadian average and stood at about half the national figure in 1951. New Brunswick showed an average of \$501, Nova Scotia \$466 and Prince Edward Island \$351.

Analysis of Provincial Production.—Value of production in *Prince Edward Island* increased by over 60 p.c. between 1946 and 1951. The economy of the Province is mainly agricultural, with the value of farm products accounting for 62 p.c. of output in 1951. Construction and manufactures provided the bulk of non-agricultural production. Manufacturing industries have provided about 40 p.c. of the commodity production in *Nova Scotia* during recent years. Mining and agriculture are main primary activities and the fishing industry is also of some importance. Construction has been at a very high level, contributing 17 p.c. to the provincial total in 1951. In *New Brunswick*, manufacturing production accounted for about 47 p.c. of commodity output in 1951, agriculture and forestry providing 17 p.c. and 14 p.c., respectively, of the total. The construction industry continued active, contributing 13 p.c.

Manufacturing industries largely dominate output in *Quebec*, accounting for over 63 p.c. of the total provincial output in 1951. Agriculture and construction each contributed more than 11 p.c. and mining, forestry and electric power provided the bulk of the remainder.

Manufacturing also predominates in *Ontario*, accounting for over two-thirds of total Provincial production in 1951. Agriculture is the leading primary industry, with mining next in importance. Construction activity, operating at a high level, contributed nearly 13 p.c.

Agriculture remains the principal industry of the *Prairie Provinces*, accounting in 1951 for 43 p.c. of provincial output in Manitoba, 81 p.c. in Saskatchewan and 54 p.c. in Alberta. Manufacturing is most predominant in Manitoba where it contributed 35 p.c. to the Province's value of production. In Alberta, the value of mining has advanced sharply since 1948 as a result of the rapid development of petroleum resources and, in 1951, contributed 16 p.c. to the provincial total. In Manitoba and Alberta, construction accounted for 13 p.c. and 12 p.c., respectively, of value of output in 1951.

In *British Columbia*, manufactures provided nearly half the total commodity production in recent years. The five primary industries—forestry, mining, agriculture, fisheries and electric power—make substantial contributions to the Province's output and reflect the diversified nature of the economy. Construction has also accounted for a considerable share in the post-war period.

The Trans-Mountain pipeline, which started carrying Alberta oil to the Pacific Coast in October 1953, stands among the great engineering feats of our time. Built over some of the world's most rugged terrain, it presented a challenge that was met and conquered by technical skill and ingenuity.





Agriculture

BECAUSE agriculture is interwoven into almost every aspect of Canada's economy, it is impossible to earmark any particular figure of the national income as definitely derived from agriculture. While cash income from the sale of farm products for 1952 is estimated at \$2,778,000,000, this figure does not include home-grown feed and supplies used on the farm nor does it take into account year-end inventories and the huge investment in land, buildings and equipment. Although only 15.6 p.c. of the total labour force, or 19.2 p.c. of the male labour force is directly employed in farming, agriculture still remains the country's basic industry and indirectly provides employment for many more Canadian workers. The raw products of the farm must in many instances be further processed in canning factories, in milk, cheese and butter establishments, or in flour mills. The final products must be graded, packaged, transported and marketed. Also further employment is provided in producing farm equipment and supplies—machinery and implements, fertilizers and pesticides.

The number of occupied farms in Canada in 1951, as reported by the Census, was 623,091 and their area was 174,046,654 acres.

Canada is primarily a land of family farms, operated as individual units or as combinations of family farms under individual ownership and control. For the country as a whole, 77.3 p.c. of the farms are operated by the owner, 21.5 p.c. by a tenant or partly by the owner and partly by a tenant, and only 1.2 p.c. are operated by employed management. Quebec ranks highest in owner-operated farms with 94 p.c., followed closely by the other eastern provinces and British Columbia. The Prairie Provinces have the highest proportion of tenant-operated farms and manager-operated farms. In the West, farms are rented mainly on a share basis because of the hazards involved in large-scale one-crop farming, while eastern farms are usually rented on a cash basis.

For the most part, the area cultivated is limited to what the family unit can manage with perhaps a small amount of hired help. The size of operation depends on the type of farming practised. On specialized farms raising such crops as fruit, vegetables or tobacco, acreages are small. On the highly mechanized grain-growing farms of the western prairies the operator may handle up to 1,000 acres or more with little outside assistance. For Canada as a whole, 17 p.c. of the farms are under 70 acres in size and 19 p.c. are over 400 acres. In the eastern provinces, where many farms specialize in fruit, vegetables or dairying or carry on mixed farming, the sizes range mainly from 10 to 130 acres. In Ontario and Quebec about half the farms are in the 70 to 180 acre group, while 87 p.c. of the farms of over 760 acres are located in Saskatchewan and Alberta. In British Columbia, again a specialized farming district, 66 p.c. of the farms are in the 3 to 70 acre group.

For the production of crops, Canadian farmers used \$1,933,312,262 worth of machinery in 1951 and over half of the farms were served with electric power. There was one tractor for every 242 acres of improved agricultural land. In the grain-growing area large tractors of 25 to 50 h.p. are common,

while smaller sizes are more generally used in other sections of the country. Tillage and harvesting equipment in use on farms varies according to the crops produced, size of farm and other factors. The pitch fork and hay loader are still used in haying on many farms but machines such as sweep rakes, pick-up balers and forage-crop harvesters are becoming increasingly popular. Combines are used extensively to harvest the crop on large grain farms but the binder is still used on many of the smaller farms.

Farm Crops.—The kinds of crops grown and the cultivating practices followed vary greatly in different parts of Canada. In general, the country may be considered in terms of four broad divisions, separated from one another by natural barriers, in which differences in soil, climate and topography make for wide variation of crop production.

Agricultural operations in British Columbia are carried on principally in the mountain valleys and on the coastal plains and include dairying, poultry-raising, the growing of apples and small fruits, seed-growing and market-gardening. Cattle ranching on a large scale is carried on in the areas between the mountain ranges of the interior.

The Prairie Provinces of Alberta, Saskatchewan and Manitoba form a block which includes about 71 p.c. of the occupied farm land of the country. The area is used chiefly for grain production and it is on these prairie farms that Canada's spring wheat is harvested. In the eastern part of the Prairies is an important dairying area where cheese production predominates. Here the climate is more extreme than in other agricultural areas—the frost-free period is fairly short and rainfall is limited and variable. The choice of farm enterprise is severely restricted by nature and distance from markets.

The Provinces of Quebec and Ontario comprise a central region. Most of the agricultural portions of these Provinces are favoured with a temperate climate. Here are located the densest centres of population, and local conditions and proximity to markets are conducive to varied types of farming. Thus, near many of the large urban centres there are areas where farmers cater to city demand for dairy produce, market-garden truck, potatoes and other vegetables and poultry. In the general inter-lake region of Ontario, one of the earliest settled portions of the Province, there are several large areas where beef-raising is important and where long-established dairying districts are located. The mild climate of the Niagara Peninsula favours fruit-growing and vegetable production, while the counties along the shores of Lake Erie produce market-garden crops, cigarette tobacco, sugar-beets, corn, orchard crops, and produce for canning.

Agricultural production in the Province of Quebec is concentrated on both sides of the St. Lawrence River where the climatic conditions are favourable for dairying, poultry-raising and hog-raising. There is, in addition, a fringe of farming somewhat north of this. In a fairly well defined area tobacco is grown, largely of the pipe and cigar type. In the vicinity of Montreal, there is a highly specialized area where the production of small fruits, apples, vegetables and poultry are the main enterprises. Some of the districts bordering the United States specialize in dairy farming, and maple syrup and sugar are important additions to the farm income in many sections.

In the eastern Provinces of Prince Edward Island, Nova Scotia and New Brunswick the climate is generally temperate, favouring dairying, mixed

farming, potato-growing, and the growing of apples and other fruits. The agriculture of Newfoundland is chiefly local in character.

Thus, most of Canada's food needs are produced within the country. Imports include mainly tropical and semi-tropical commodities—tea, coffee, cocoa, rice and citrus fruits. Some fresh fruits and vegetables are imported during the off-season.

Export Trade.—The agricultural production of Canada is greater than domestic needs and farming adapted to export trade has consequently been a natural development. Not only is Canada a large exporter but, according to a study by the United Nations, it is one of the few countries to maintain output at a level above that of 1934-38.

Canada's exports include wheat and flour, animals, meat and other animal products, dairy and poultry products, apples and other fruits, potatoes (both seed and table stock), canned and processed foods of many kinds, dried beans, field and garden seed and tobacco. For fifty years or more, the Government has been steadily establishing and improving standards of quality for export commodities. These standards are widely recognized abroad and, because they are strictly maintained, many Canadian foods and agricultural products command premium prices in world markets. Canada also exports numbers of live stock for breeding purposes, under a health-inspection arrangement that makes them acceptable to all countries.

Services Available to the Farmer.—The Federal Government, as well as the provincial governments, have long recognized the complexity of production and marketing problems facing the farmer and each government has established a department or branch of agriculture to administer a multitude of

Praying sheep on a ranch near Maple Creek, Sask. The sheep are crowded into the pens to prevent trampling.



national and local services which assist the farmer in almost every field of his endeavour. Each year representatives of the provincial governments meet with federal agricultural officials and representatives of organized farmers to consider broad plans for guiding agricultural production during the following season. These annual conferences afford opportunities for co-operative attacks on the problems that confront Canadian farmers.

The Federal Department of Agriculture has a chain of experimental farms and research laboratories stretching across the country. They are located to serve the needs of a wide variety of farming enterprises and of specialized areas of soil and climate. These institutions conduct scientific research on methods of pest and disease control, the micro-biology of soils and foodstuffs, the nutritional requirements of plants and animals and the development of superior types of plants and animals. Long-time investigations are conducted on crop production and the effects of various cultural methods on



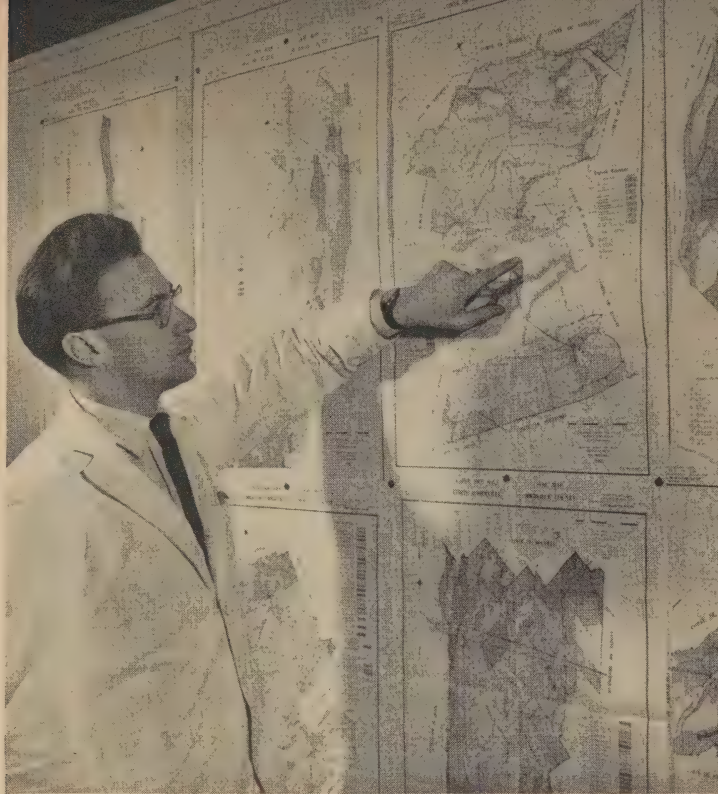
The basic task of Government entomological laboratories is research, which is actually insurance for the farmer against insect damage of the present and the future. The entomologists must wage a constant battle against insects because of their ready adaptation to new crops, new cultural methods and new insecticides.

Wax models of insect damage are expertly prepared for laboratories across Canada.

Laboratories for insect control at Chatham, Ont.



conservation of the soil is of basic importance to agriculture. Specialists of the federal and provincial governments have been working for many years on a general survey of types of soils and their agricultural possibilities. Their work, together with the soil-testing facilities available to farmers who wish to use them, offer a scientific approach to the problems of feeding the soils and obtaining maximum production from them.



soil fertility and erosion. The application of mechanical power to farm operations is studied in detail in relation both to farm efficiency and to the effect on soil and water conservation. Laboratory research is directed towards control of insect and fungus pests of crop plants and forest trees, control of disease in live stock, improvement in techniques for the processing and storage of farm products, application of genetics in the development of superior lines of plant and animal material, and to many other problems of agriculture. Economic research on a broad scale is also carried on. Studies in farm management, land utilization, marketing and farm family living are undertaken in all parts of the country by trained workers.

One typical example of the work of the agricultural scientist in protecting Canadian agriculture is the story of stem rust of wheat, which at one time was a serious threat to Canada's great wheat crop. First reported in Canada in 1891, it had by 1916 become a limiting factor in wheat production, destroying 100,000,000 bu. in that year. The average annual loss from 1916 to 1936, when stem rust-resistant varieties were introduced, was about 35,000,000 bu.

Although chemical methods of control have not been overlooked, the breeding of rust-resistant varieties of wheat remains the only practical way of controlling stem rust. Unfortunately, new 'races' of stem rust develop and the variety that is immune to known races may not be resistant to a new arrival. It has been established that the red or summer spores of stem rust rarely, if ever, overwinter in Western Canada. The rust spreads northward each

spring from Mexico and the southern United States and reaches southern Manitoba by late June. From there it extends northward and westward into Saskatchewan.

Thus the work of the plant breeder is never done. Not only must he keep breeding rust-resistant varieties for known races of stem rust, but he must be ready for the challenge of a new rust. Naturally the work is not complete when a few seeds of a new rust-resistant variety have been grown. The seeds must be multiplied so that relatively large quantities can be made available as soon as possible for farmers to use in sowing their large acreages. Advantage is therefore taken of the milder climate farther south and, with the co-operation of United States agriculturists, seed is sown for multiplication in Arizona and California during the Canadian winter, as well as in Canada during the growing season.

The work of federal research institutions is conducted in co-operation with other government agencies and with universities. Services of highly skilled workers are available without charge to farmers who require assistance and advice. Both federal and provincial agricultural authorities keep the farmers informed of new developments through the use of bulletins, posters, newspaper articles, films, exhibits at rural fairs, and specialized radio programs. Government Departments and universities supply speakers for extension courses on agricultural problems and community welfare, and current information on markets for farm products is given to the public in the form of daily and weekly radio and printed reports. Most of the information is free of charge.

Federal development assistance includes grants to cold storages, warehousing and processing plants and financial support for organized activities that have to do with improving the quality of live stock and crops. Seed crop inspection service promotes the production of registered and certified seed to assure the constant supply to farmers of pure-bred seed of the best varieties. Other inspection services control the introduction or isolation of pests and plant and animal diseases. Compulsory grades or quality standards for many products are established by law.

Price Stability.—Canada, like most agricultural countries, has measures designed to give price stability in marketing. Under the Agricultural Prices Support Act, 1944, the Federal Government may stabilize the price of any agricultural product (except wheat which is handled separately) by outright purchase or by underwriting the market through guarantees or deficiency payments. This Act has been used to good purpose to stabilize the price of products such as butter and eggs which normally are subject to somewhat violent seasonal price fluctuations. It is also valuable in handling surpluses of a temporary nature. Farmers who market their products co-operatively can be assisted under the Agricultural Products Co-operative Marketing Act. Since 1939 the Act has aided farmers in pooling returns from the sale of their products by guaranteeing initial payments, thus assisting in orderly marketing.

Another measure of considerable importance in price stabilization is the Agricultural Products Marketing Act, 1949. A number of provincial governments have established boards to control or regulate agricultural products produced and marketed within the province concerned. This Act enables such provincial marketing legislation, or any particular part of it, to be applied in the same way to the marketing of agricultural products outside that

province and in export trade. The Prairie Farm Assistance Act, 1939, also provides security by giving financial aid to Prairie Province farmers who suffer partial or total crop failure during years of drought.

Reclamation and Development.—For many years the Federal Government has provided financial assistance when problems have arisen in connection with land and water resources. The work is done under the Prairie Farm Rehabilitation Act, 1935. The administration of the Act is broad enough in its scope to meet the problems of rehabilitation, and flexible enough to enable formulation of joint policies with each provincial government, the rural municipalities and the farmer himself. The activities are classified as either intermediate or long-term. The intermediate program includes projects concerned with soil drifting on good lands; water developments for small farms; development of irrigation for feed production on a watershed basis; and community pastures. Water developments for small farms include dugouts, stockwatering and individual irrigation, the engineering and financial assistance for which extends to about one-third of the cost. Long-term projects involve many years of study. Engineering surveys are only a part, and it is necessary to have surveys of soil, economic water supply, climate and all those matters that affect land and people. Such projects include the St. Mary River Dam completed in 1951, a key structure to bring water, when and where needed, to about 500,000 acres of fertile land in southern Alberta. Mention should be made of the marshlands rehabilitation in Nova Scotia and New Brunswick, where the Federal Government, along with the two provincial governments,

The marshlands of Prince Edward Island, Nova Scotia and New Brunswick contain some of the most productive soils in Canada when protected and properly cultivated. A joint reclamation and rehabilitation program is being conducted on these lands by the federal and provincial governments.





Forum meeting at an Ontario farm home. More than 1,300 listening and discussion groups participate in the National Farm Radio Forum, an activity that has, among other accomplishments helped to restore the sense of community, neighbourliness that once was a principal characteristic of rural life.

has undertaken on a joint basis to preserve and in some cases restore the productivity of rich agricultural lands which are threatened by the sea in the Bay of Fundy. Some work has also been done in Prince Edward Island.

• Statistics of Agriculture

Income of Farm Operators

During 1952, Canadian farm operators (excluding Newfoundland farmers) realized a net income from farming operations of an estimated \$1,949,897,000. This figure, the second highest recorded, is 11 p.c. lower than the record high net income of \$2,188,639,000 realized in 1951 and 35 p.c. higher than the 1950 estimate of \$1,448,081,000.

Net Income of Farm Operators from Farming Operations, 1950-52

Item	1950	1951	1952
	\$'000	\$'000	\$'000
1. Cash income.....	2,213,226	2,811,949	2,778,343
2. Income in kind.....	383,478	434,553	433,722
3. Value of changes in inventory.....	130,729	353,493	237,625
4. Gross Income (Items 1 + 2 + 3).....	2,727,433	3,599,995	3,449,690
5. Operating expenses and depreciation charges...	1,293,158	1,421,712	1,504,924
6. Net income, excluding supplementary payments (Items 4—5).....	1,434,275	2,178,283	1,944,766
7. Supplementary payments.....	13,806	10,356	5,131
8. Net Income of Farm Operators from Farming Operations.....	1,448,081	2,188,639	1,949,897

The decline from the level reached in 1951 was the net result of a drop of 4 p.c. in gross farm income and an increase of 6 p.c. in farm operating expenses, including depreciation charges. The decline in gross farm income was

caused by slightly lower returns from the sale of farm products and a substantial drop in the value of year-end changes in farm-held stocks of grains and live stock. Income in kind for 1952 was virtually unchanged from 1951.

Annual estimates of cash income from the sale of farm products, the most important component of net farm income, represent receipts from all products sold off farms valued at prices received by farmers. Also included are those federal and provincial government payments that farmers receive as subsidies to prices, but supplementary payments made under the provisions of the Prairie Farm Assistance Act are excluded. It is estimated that, during 1952, Canadian farmers realized \$2,778,343,000 from the sale of farm products and from participation payments on previous years' grain crops, an amount only 1 p.c. below the revised and all-time high cash income estimate of \$2,811,949,000 established in 1951. Supplementary payments made to western farmers under the provisions of the Prairie Farm Assistance Act amounted to only \$5,131,000 as against \$13,806,000 and \$10,356,000 received during 1950 and 1951, respectively. The maintenance of farm cash income at near-record levels in 1952 can be largely attributed to a substantial increase in receipts from the sale of field crops, which offset to a great extent the decline in cash returns from live stock and some of the live-stock products. Spring marketings of grain were exceptionally heavy in Western Canada as a result of the heavy carry-over of both threshed and unthreshed portions of the 1951 crop. A general and substantial drop in average live-stock prices together with lower marketings of all live stock, except hogs, accounted for the significant decline in live-stock receipts in 1952.

The value of year-end changes of farm-held grains and live stock amounted to \$237,625,000 as compared with the estimated value of \$353,493,000 for

In most farms the work is now done by tractor-drawn machinery but the sight of horses in a hay field brings nostalgic thoughts of days not so long past.



1951 and the record high of \$353,949,000 for 1942. The year-end inventory changes of grains held on farms in 1952 were valued at \$127,846,000, down 39 p.c. from 1951. The value of live-stock inventory changes declined by 24 p.c. from the 1951 level to a total of \$109,779,000.

Nearly all items included in farm operating expenses were higher in 1952 than in 1951 and total expenses, including depreciation charges, were estimated at \$1,504,924,000 as compared with \$1,421,712,000 for 1951. Wage rates in 1952 were about 5 p.c. higher than in 1951 but the total labour force employed in agriculture was smaller. The greater use of tractors, combines and other machines on farms has increased the outlay for operation and maintenance. Increased expenditures for fertilizer reflect generally higher prices for that item. The only declines occurring in farmers' operating expenses were recorded for automobiles, feed and seed and in each case the reduction was small.

Cash Income from the Sale of Farm Products, by Province, 1950-52

Province	1950	1951	1952
	\$'000	\$'000	\$'000
Prince Edward Island.....	21,619	26,676	31,281
Nova Scotia.....	37,981	44,574	37,388
New Brunswick.....	43,655	48,157	48,943
Quebec.....	355,685	426,376	385,927
Ontario.....	679,757	790,934	714,898
Manitoba.....	197,254	262,391	246,065
Saskatchewan.....	412,455	631,032	698,960
Alberta.....	363,458	466,047	506,660
British Columbia.....	101,362	115,762	108,221
Totals.....	2,213,226	2,811,949	2,778,343

Cash Income from the Sale of Farm Products, by Source, 1952

Source	Cash Income	Source	Cash Income
	\$'000		\$'000
Grains, seeds and hay.....	1,071,709	Miscellaneous farm products....	51,319
Vegetables and other field crops...	223,792	Forest products sold off farms...	84,097
Live stock.....	792,110	Fur Farming.....	11,331
Dairy products.....	380,945		
Fruits.....	42,653		
Eggs, wool, honey and maple products.....	120,387	Cash Income from Sale of Farm Products.....	2,778,343

Farm Prices

The monthly index of farm prices of agricultural products was designed to measure changes occurring in the average prices farmers receive at the farm from the sale of farm products. In comparing current index numbers with those prior to August 1953, certain points should be considered. Western grain prices used in the construction of the index before Aug. 1, 1953, are final prices for all grains except wheat. For the crop year 1952-53, the western wheat prices used are initial prices plus a 12-cent interim payment. Since Aug. 1, 1953, only initial prices are available for western wheat, oats and barley. Any subsequent participation payments made on the 1952 crop of wheat and on the 1953 crops of wheat, oats and barley will be added to the prices currently used and the index revised upward accordingly.



The development of labour-saving farm machinery has been rapid since the end of World War II and farmers have found that large investments in such equipment have been fully justified. Fall fair displays keep the farmer posted on the latest designs.

The Women's Institute, with a membership of 87,000, is very active throughout rural Canada. Its major object is to raise the standard of home-making, an effort requiring the stimulation of interest in many fields of local, provincial and national concern. A Coronation quilt in the handicraft display at the 1953 New Brunswick WI convention received much attention.





Reaping nature's
yield — a scene
repeated thous-
ands of times on
farms throughout
Eastern Canada

Index Numbers of Farm Prices of Agricultural Products, 1949-53

(1935-39 = 100)

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1949 Av.....	204.1	210.5	220.5	261.3	257.8	262.8	248.8	265.6	245.1	255.4
1950 Av.....	189.6	206.5	216.8	260.9	265.1	274.4	251.5	276.1	244.3	260.8
1951 Av.....	236.4	243.2	250.8	305.6	315.0	301.6	268.7	308.0	287.0	296.8
1952 Av.....	351.8	275.1	344.5	290.2	286.2	264.0	241.6	261.5	293.0	272.6
1953 Av.....	192.7	230.4	213.4	272.9	263.7	236.7	215.8	236.4	270.0	245.0
1952—										
Jan.....	343.8	283.2	329.7	314.9	313.1	293.1	261.7	290.8	310.8	296.5
Feb.....	319.4	273.9	318.7	306.7	297.4	281.4	252.3	279.6	304.4	284.8
Mar.....	349.1	278.9	355.7	301.3	290.0	277.2	247.7	268.9	299.4	279.5
Apr.....	394.8	286.6	377.5	295.0	284.9	271.2	244.1	265.6	296.5	276.3
May.....	414.7	287.8	386.6	285.6	278.3	258.8	235.6	255.6	296.2	268.8
June.....	493.8	307.3	434.0	293.4	289.3	259.7	237.4	258.0	294.7	276.1
July.....	348.4	272.2	371.5	292.7	292.6	264.6	241.5	259.8	298.5	275.2
Aug.....	378.8	271.1	377.7	284.7	292.7	258.4	242.0	259.3	287.7	273.7
Sept.....	309.8	269.1	309.5	280.0	279.9	253.2	239.0	255.7	288.4	265.4
Oct.....	294.5	258.3	298.3	274.1	272.3	249.7	232.2	246.9	280.1	258.1
Nov.....	293.6	256.7	294.3	275.9	273.1	250.4	233.1	248.2	280.2	258.9
Dec.....	281.1	255.6	280.7	277.8	270.9	250.5	232.7	249.4	279.4	258.2
1953—										
Jan.....	280.2	260.2	283.7	280.3	272.5	256.3	232.4	248.1	276.0	259.2
Feb.....	238.9	246.3	256.5	279.1	268.8	250.2	230.8	245.1	276.4	255.2
Mar.....	208.7	241.7	222.4	278.5	267.2	250.8	229.9	246.8	271.4	253.5
Apr.....	165.1	226.0	195.2	266.3	258.0	246.9	226.8	244.3	269.7	246.4
May.....	170.0	219.7	200.3	269.4	257.4	247.0	229.6	246.7	266.2	247.5
June.....	194.0	227.3	207.7	279.3	270.1	253.4	230.5	255.7	274.2	255.9
July.....	179.0	225.2	214.1	275.5	265.6	246.8	227.9	247.9	268.2	251.1
Aug.....	194.8	233.0	218.0	275.0	267.9	225.0	200.1	226.9	271.3	240.6
Sept.....	175.6	224.9	199.8	267.3	262.9	221.5	198.1	223.3	266.0	235.8
Oct.....	172.6	224.1	200.6	270.5	265.3	217.1	196.9	220.2	270.0	235.8
Nov.....	167.1	221.9	183.7	264.1	254.1	211.9	193.4	215.3	265.0	228.9
Dec.....	166.5	215.0	178.7	269.3	254.6	213.7	193.2	217.0	265.7	229.9

Field Crops

Production of many of Canada's grain and forage crops in 1953 was at record or near-record levels for the third consecutive year. Outturns of five crops—wheat, barley, rye, shelled corn and rapeseed—were the second largest on record while production of soybeans reached a new high. Although seeding in many areas throughout the country was unduly prolonged, warm weather and frequent rains, especially in Western Canada, accelerated plant growth to such an extent that the adverse effects of late seeding were largely overcome. Losses to the western grain crop from insect damage were, as in 1952, almost negligible but damage from hail and rust was of more serious proportions than in recent years.

The harvest of near-record western grain crops in 1953 meant the continuation into 1953-54 of the exceptionally heavy load imposed on grain storage and handling facilities during the preceding two crop years. The harvesting and marketing of abnormally large quantities of grain in the spring of 1952 resulted in unseasonably large stocks of grain in country elevators at the beginning of the 1952-53 crop year. Despite the lack of adequate elevator space at a time when new crop deliveries normally commence in volume, the continuation of the high degree of efficiency and co-operation achieved in handling the 1951 crop under unusually adverse conditions enabled farmers in Western Canada to deliver a record volume of grain in 1952-53 for the second consecutive year. Final marketing data indicate that 845,000,000 bu. of all grains delivered in 1952-53 as against 737,000,000

Mechanized warfare against the flea beetle on a potato farm.



bu. in 1951-52. Although domestic utilization of all grains remained at a high level and combined exports of wheat, oats, barley, rye and flaxseed reached the unprecedented total of 582,000,000 bu., total carryover stocks of these grains at July 31, 1953, amounted to 645,400,000 bu., an increase of 55 p.c. over the July 31, 1952, level and second only to the record 823,000,000 bu. on hand at July 31, 1943.

As a result of the near-record size of both carryover stocks and the 1953 crop, supplies of grain in Canada for 1953-54 were at extremely high levels. Supplies of barley and rye reached a peak level and wheat supplies were exceeded only in 1942-43 when carryover stocks were abnormally high as a result of wartime conditions. These large supplies of Canadian grain on hand were almost entirely attributable to the cumulative effect of unusually high yields per acre for three successive years. The area seeded to grain crops showed little change, domestic utilization remained relatively high and, for each of the past two crop years, exports were at record-breaking levels.

Acreages, Production and Values of Field Crops, 1952 and 1953

Crop	Revised Estimate 1952 Crops			Preliminary Estimate 1953 Crops		
	Area	Production	Gross Farm Value ¹	Area	Production	Gross Farm Value ²
	'000 acres	'000 bu.	\$'000	'000 acres	'000 bu.	\$'000
Wheat.....	25,995	687,922	1,090,512	25,513	613,962	726,665 ³
Oats.....	11,062	466,805	309,477	9,830	406,960	234,519 ³
Barley.....	8,477	291,379	307,749	8,911	262,065	200,337 ³
Rye.....	1,274	24,833	34,267	1,494	28,775	24,753
Mixed grains.....	1,570	63,205	61,004	1,445	62,188	52,358
Corn, shelled.....	339	19,722	28,403	362	20,854	28,199
Buckwheat.....	123	2,680	3,472	139	3,210	3,566
Peas, dry.....	43	888	2,401	60	1,210	2,745
Beans, dry.....	60	1,293	5,698	68	1,220	5,032
Potatoes.....	297	60,071	100,784	321	67,002	51,978
Flaxseed.....	1,130	12,261	38,749	972	9,912	24,215
Soybeans.....	172	4,128	10,526	216	4,406	10,795
		'000 lb.			'000 lb.	
Sunflower seed.....	3	1,896	95	4	3,960	198
Rapeseed.....	18	15,900	547	42	51,475	1,819
		'000 tons			'000 tons	
Field roots.....	45	495	8,336	43	477	6,780
Tame hay.....	10,679	19,083	271,687	10,702	19,650	262,170
Fodder corn.....	365	3,798	17,197	365	3,565	16,661
Sugar beets.....	93	1,023	15,493	82	900	11,722

¹ Revised; includes effect of final payments on Western Canadian wheat, oats and barley, and on sugar beets. ² Preliminary; based on prices received by farmers during the August-January period only.

³ Based on initial payments only for Western Canadian wheat, oats and barley; subject to upward revision when interim and final payments become known.

Marketing of Wheat.—Marketing of Western Canadian wheat during 1952-53 was again conducted by the Canadian Wheat Board on a one-year pool basis with the initial payment set at \$1.40* per bu. Effective Mar. 2, 1953, the initial payment was increased to \$1.60 per bu. for spring wheat other than Durum and to \$1.65 for Durum wheat, and adjustment payments

* All wheat prices quoted are for No. 1 Northern, basis in store Fort William-Port Arthur or Vancouver.



*Harvest pattern surrounding the village of Cowley in the foothills of the Rocky Mountains,
southwestern Alberta.*



Combining wheat
in the Lethbridge
area of Alberta.

covering these increases were made on all wheat delivered to the Board between Aug. 1, 1952, and Feb. 28, 1953. An interim payment of an additional 12 cents per bu. on all grades (amounting in total to some \$64,000,000) was announced on Sept. 11, 1953. Final payments on the 533,016,979 bu. of wheat delivered to the 1952-53 pool averaged 10.934 cents per bu., with the total payment for No. 1 Northern amounting to \$1.81871 per bu.

The 1952-53 crop year coincided with the fourth and final year of the first International Wheat Agreement. Under its provisions Canada had a guaranteed export quota of 235,000,000 bu. for 1952-53 and (according to the final report of the International Wheat Council on the year's transactions) Canadian sales registered under the Agreement totalled 231,100,000 bu. Distribution of sales under the Agreement continued to be widespread, with all but five of the 42 importing countries participating in the multilateral pact purchasing wheat and/or flour from Canada. All sales against 1952-53 quotas under the Agreement were made at the maximum price of \$1.80 (U.S. funds) plus a carrying charge of 6 cents per bu. Since the Canadian dollar remained at a premium over the United States dollar throughout the crop year, the price in terms of Canadian funds remained somewhat below \$1.80, varying with daily fluctuations in the exchange rate.

In addition to sales under the Agreement, substantial quantities of Class II wheat (wheat exported outside the provisions of the International Wheat Agreement) were sold, with the largest amount in this category, some 23,000,000 bu., going to the United States. The combined Canadian exports of 385,500,000 bu. of wheat and flour went to 85 countries, territories and colonies during the crop year. Sales of wheat for domestic use during 1952-53 continued to be made at the same prices as those under IWA up to May 17, 1953. Effective May 19, 1953, and continuing to the end of the crop year, the domestic price was \$2.05 per bu. except when the Board's Class II price fell below \$2.05, in which case domestic sales were made at the Class II price.

Similar marketing arrangements are in effect for the 1953-54 crop year, with the initial payment to producers again set at \$1.40 per bu. Sales of wheat for domestic use are being made on the same price basis as those under IWA. Under the new International Wheat Agreement, Canada has a guaranteed annual export quota of 163,231,000 bu., with sales to be made within the price range of \$1.55 per bu. for the minimum and \$2.05 per bu. for the maximum.

Production, Imports and Exports of Wheat, Years Ended July 31, 1945-54

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bu. to the barrel of 196 lb. of flour.

Year ended July 31—	Production ¹	Imports of Wheat and Flour	Exports of Wheat and Flour
	'000 bu.	bu.	bu.
1945.....	416,635	404,547	342,945,515
1946.....	318,512	74,765	343,185,751
1947.....	413,725	15,584	239,420,837
1948.....	341,758	824,677	194,982,342
1949.....	386,345	288,881	232,329,335
1950.....	371,406	4,059	225,136,785
1951.....	461,664	11,884	240,960,846
1952.....	552,657	17,560	355,825,252
1953.....	687,922	17,066	385,526,541
1954.....	613,965	..	..

¹ Previous year's harvested crop.

Marketing of Other Grains.—Marketing of Western Canadian oats and barley during 1952-53 was also carried on through compulsory crop-year pools administered by the Canadian Wheat Board. Initial payments were made on the basis of 65 cents per bu. for No. 2 C.W. oats and 96 cents per bu. for No. 3 C.W. 6-Row barley, both prices basis in store Fort William-Port Arthur. In the case of barley, initial payments were increased to \$1.11 for No. 3 C.W. 6-Row barley, effective Mar. 2, 1953, and adjustment payments of 15 cents per bu. were made on all grades of barley delivered to the Board during the Aug. 1-Feb. 28 period.

Producers in Western Canada delivered 118,967,962 bu. of oats to the 1952-53 oats pool and the average final payment, as announced on Oct. 30, 1953, amounted to 9.2 cents per bu. Total prices (basis in store Fort William-Port Arthur) realized by producers, after deducting carrying charges in country and terminal elevators, Board administrative costs, etc., but before deducting the 1-p.c. Prairie Farm Assistance Act levy, were 74.119 cents per bu. for No. 2 C.W. oats and 68.478 cents per bu. for No. 1 Feed oats.

Details of the final payments on the 1952-53 barley pool, as announced on Nov. 19, 1953, indicated that producers would be paid an average of 13 cents per bu. on the 164,886,884 bu. of barley delivered to the Board's 1952-53 pool. Total payments, on the same basis as described above for oats, amounted to \$1.24492 per bu. for No. 3 C.W. 6-Row barley and \$1.2867 for No. 1 Feed barley.

Similar marketing arrangements for oats and barley are in effect for the 1953-54 crop year, with initial payments to producers made on the basis



Spring rye near Brandon, Man.

of 65 cents per bu. for No. 2 C.W. oats and 96 cents per bu. for No. 3 C.W. 6-Row barley, both prices basis in store Fort William-Port Arthur. Both rye and flaxseed in Western Canada and all grains in Eastern Canada continue to be sold on the open market.

Live Stock

The total number of cattle on farms at June 1, 1953, was estimated at 9,762,200 head, an increase of about 6 p.c. over the number on the same date of 1952. Increases occurred in all provinces except Manitoba, the increase in Eastern Canada being slightly higher than in the West. The number of milk cows also increased 6 p.c. as the result of an 8-p.c. rise in Eastern Canada; decreases in Manitoba and Saskatchewan just about offset increases in Alberta and British Columbia. The number of sheep continued to advance, gaining 8 p.c. in the year ended June 1, 1953, an increase comparable with that estimated for the year ended June 1, 1952. All provinces except Manitoba contributed to the increase. Every province had fewer hogs except Alberta, where the increase was small. The total for Canada, estimated at 5,741,000 on June 1, 1952, decreased by 23 p.c. to 4,447,000 on June 1, 1953. The decline in Eastern Canada amounted to 29 p.c. as compared with 13 p.c. in Western Canada. The number of horses has decreased since 1952; the estimated 1,096,200 head at June 1, 1953, was 7 p.c. lower than the 1952 figure.



A Western Canada cattle ranch.

Live Stock on Farms, by Province, as at June 1, 1952 and 1953

Year and Province	Milk Cows	Other Cattle	Hogs	Sheep and Lambs	Horses
1952—					
P.E.I.....	41,000	63,900	77,000	36,200	19,700
N.S.....	83,000	102,700	51,000	83,700	24,400
N.B.....	86,000	91,900	83,000	55,000	29,800
Que.....	937,000	871,000	1,312,000	337,100	221,000
Ont.....	959,000	1,778,000	1,937,000	389,700	218,700
Man.....	209,000	476,000	399,000	68,000	113,500
Sask.....	289,000	1,093,000	646,000	155,000	279,500
Alta.....	280,000	1,474,000	1,170,000	387,000	239,700
B.C.....	84,000	254,200	66,000	76,500	34,100
Totals, 1952....	2,968,000	6,204,700	5,741,000	1,588,200	1,180,400
1953—					
P.E.I.....	44,000	70,000	57,000	38,700	19,000
N.S.....	88,000	114,000	39,000	95,000	23,400
N.B.....	95,000	98,400	56,000	64,300	29,000
Que.....	1,016,200	903,600	867,000	360,800	218,000
Ont.....	1,040,000	1,942,000	1,450,000	414,500	202,200
Man.....	195,000	459,000	287,000	65,000	96,800
Sask.....	285,000	1,150,000	469,000	170,000	255,500
Alta.....	289,000	1,621,000	1,180,000	432,000	222,000
B.C.....	94,000	258,000	42,000	81,000	30,300
Totals, 1953....	3,146,200	6,616,000	4,447,000	1,721,300	1,096,200



The sale of live stock and dairy products brought a cash income of \$1,200,000,000 to Canadian farmers in 1952.

Dairying

Milk.—Greater numbers of cows held on farms for milk production in 1952 resulted in an output of 16,784,982,000 lb. of milk, 2 p.c. above the 16,423,582,000 lb. produced in 1951. On June 1, 1953, the number of milk cows was 3,146,000, 6 p.c. more than on June 1, 1952; dairy heifers, estimated at 941,000, were 2 p.c. above those of a year earlier.

The increase in cow numbers in 1953, together with good pasture conditions during the producing season, raised milk production about 4 p.c. above the level of 1952; the output was estimated at 17,400,000,000 lb. Milk production per cow was maintained at approximately the same level as in the previous year.

A decrease in export demand for concentrated milk products diverted greater quantities of milk into butter and cheese, while the sales of fluid milk and cream were maintained somewhat above those of the previous year. Domestic consumption of milk and cream, on a milk basis, amounted to 4,524,000,000 pt. in 1952, the average daily per capita consumption being 0.88 pt.

Butter and Cheese.—Creamery butter production, which had declined about 34,000,000 lb. between 1947 and 1951, increased in 1952 to approximately 281,000,000 lb., about 9 p.c. above the 1951 output. This amount was 31,000,000 lb. lower than the peak production of 1943. Output for the first nine months of 1953, at 247,000,000 lb., was 9 p.c. above the same period of 1952. On the other hand, dairy butter production, which had declined

steadily since 1949, suffered a 10-p.c. reduction in 1952 and another 9-p.c. reduction in the January-August period of 1953 as compared with the same period of 1952. The output of creamery, dairy and whey butter combined was 324,499,000 lb. in 1952. The quantity of butter available in 1952 was largely required to meet current needs but stocks began to increase following the higher production in 1953. Stocks of butter in storage at the end of September 1953 were approximately 17,000,000 lb. above those of the previous year. The domestic disappearance of butter in 1951, including 17,488,000 lb. of imported butter, averaged 22·64 lb. per capita, compared with 22·07 lb. in

Electricity has revolutionized the dairy industry. On this Ontario farm, a herd of Holsteins on the way to the milking 'parlour' are confined to a section of the loafing barn by an electrified wire.



In the milking 'parlour', the milk flows from the cow to clear glass containers, then passes through a cooling process to the milk cans without human handling.



1952 and 28.73 lb. in 1948. The decline since 1948 followed the introduction of margarine early in 1949. The domestic disappearance of margarine amounted to 7.45 lb. per capita in 1951 and 7.34 lb. per capita in 1952.

Exchange difficulties arising from the shortage of dollars in the United Kingdom caused a sharp reduction in shipments of Canadian cheese to that market during the past few years and resulted in a decline in production. In 1952, only 66,574,000 lb. of cheddar were produced in comparison with 88,784,000 lb. in 1951, 146,099,000 lb. in 1946 and 206,215,000 lb. in 1942. The 1942 output was the all-time high point in Canada's cheese production.

The Canadian Government did not make a contract with the United Kingdom Government in 1951. Shipments amounting to 27,805,900 lb. were made under a direct contract executed between the Ontario Cheese Producers Association and the Government of the United Kingdom. Of this amount, 25,633,000 lb. came from Ontario and the remainder from Quebec. Sales from 1952 production were made by the Ontario Cheese Producers Marketing Association operating under the Agricultural Products Co-operative Marketing Act of Canada. Exports to the United Kingdom on this agreement at 28½ cents per lb. covered 5,477,300 lb. of cheese which was exported during February, March and April of 1953. A bulk sale to the United Kingdom of about 10,000,000 lb. of 1953 make was concluded with exports starting at the end of October 1953. The domestic wholesale price of first-grade Ontario white cheese at Montreal averaged 32¼ cents per lb. in 1952 as compared with 37⅞ cents in 1951. The domestic retail price averaged 36 cents in 1952.

Concentrated Milk and Ice Cream.—The production of concentrated milk products in 1952 amounted to 471,475,000 lb. compared with 435,762,000 lb. in 1951. Such products include whole-milk products (evaporated, condensed and powdered milk together with products of a variable fat content not otherwise classified) and milk by-products (evaporated and condensed skim milk, powdered skim milk, buttermilk, whey and casein). Evaporated milk, the most important product in the first group, comprising about 70 p.c. of the total in terms of milk, advanced from a production of 290,443,000 lb. in 1951 to 305,715,000 lb. in 1952. Skim-milk powder, the most important milk by-product, advanced from 52,748,000 lb. in 1951 to 86,778,000 lb. in 1952. The production of ice cream at 27,238,000 gal. was 7 p.c. higher than the amount manufactured in 1951, and during the January-September period of 1953 it exceeded the nine-month total of 1952 by 5 p.c.

Income and Values.—Farm income from dairying in 1952 amounted to \$443,438,000; the estimated yield from cash sales was \$380,945,000 while income in kind amounted to \$62,493,000, made up principally of the value of dairy butter, milk and cream consumed on the farm. With the single exception of fluid milk, the prices of all products sold off farms declined in 1952. The average price of fluid milk was \$4.39 per cwt. as compared with \$4.09 in 1951, while the average price of cheese milk was \$2.15 per cwt. against \$2.72. Creamery butter-fat declined from 65.4 cents per lb. in 1951 to 61.0 cents in 1952. During the January-August period of 1953, prices for all products were lower than those of 1952. Creamery butter-fat, which averaged 60.6 cents in January-August 1952, was 59.8 cents in the same period of 1953. Fluid milk at \$4.35 per cwt. was only 2 cents below that price in 1952, but manufactured milk declined from \$2.80 to \$2.53.

Dairy Production, by Economic Area, 1948-52

Economic Area and Year	Milk		Manufactured Milk Products ¹			
	Fluid Sales	Total Milk Production	Butter		Cheddar Cheese	Ice Cream
			Creamery	Dairy		
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 gal.
Maritimes ².....1948	226,316	1,079,889	17,854	8,881	1,466	2,557
1949	229,553	1,095,337	18,809	7,582	1,619	2,573
1950	234,981	1,065,793	17,873	6,882	1,563	2,324
1951	243,244	1,058,078	16,859	6,733	2,209	2,676
1952	252,482	1,028,796	16,808	5,449	1,347	2,541
Que. and Ont. .1948	2,838,889	10,348,460	171,510	19,854	81,756	15,151
1949	2,873,262	10,570,555	168,220	15,557	109,806	14,617
1950	2,921,474	10,305,682	156,187	14,418	90,782	14,201
1951	2,969,953	10,408,243	158,500	16,395	82,112	14,451
1952	3,052,208	10,790,630	181,249	15,393	61,271	15,860
Prairies.....1948	639,331	4,668,437	91,939	32,511	5,372	5,006
1949	653,436	4,526,519	88,165	28,455	4,992	5,184
1950	665,995	4,410,030	82,732	24,561	4,745	4,846
1951	687,822	4,332,029	79,140	22,675	3,906	5,347
1952	717,477	4,315,297	79,020	20,258	3,490	5,873
B.C.....1948	320,381	633,576	4,326	1,599	431	2,492
1949	327,502	650,934	4,611	1,258	498	2,416
1950	334,577	667,355	4,672	1,036	564	2,451
1951	325,859	625,232	2,666	924	557	2,892
1952	322,805	650,259	3,670	939	466	2,964
Totals ².....1948	4,024,917	16,730,362	285,629	62,845	89,025 ³	25,206
1949	4,083,753	16,843,345	279,805	52,852	116,915 ³	24,790
1950	4,157,027	16,448,860	261,464	46,897	97,654 ³	23,822
1951	4,226,878	16,423,582	257,165	46,727	88,784 ³	25,366
1952	4,344,972	16,784,982	280,747	42,039	66,574 ³	27,238

¹ Concentrated milk products are not shown; total production for Canada was 399,187,000 lb. in 1948, 371,342,000 lb. in 1949, 382,370,000 lb. in 1950, 435,762,000 lb. in 1951 and 471,475,000 lb. in 1952.

² Exclusive of Newfoundland.

³ Total cheese production amounted to 94,678,000 lb. in 1948, 121,030,000 lb. in 1949, 102,659,000 lb. in 1950, 94,261,000 lb. in 1951 and 72,658,000 lb. in 1952; these data exclude farm cheese except in 1948 when an estimate of 730,000 lb. was included in the figures given.

Poultry

The following table shows the numbers of poultry on farms as recorded at the two latest censuses, 1941 and 1951, and includes annual estimates as at June 1, 1952 and 1953. The total of hens and chickens on Canadian farms was about 9 p.c. higher in 1951 than ten years earlier but was slightly lower in 1953 than in 1951. Other farm poultry declined substantially from 1941 levels, the numbers of turkeys, geese and ducks in 1953 being 81.6 p.c., 59.7 p.c. and 78.5 p.c., respectively, of the 1941 totals.

Poultry on Farms, by Province, June 1, 1941 and 1951-53

NOTE.—Census data 1941 and 1951 and annual estimates 1952 and 1953, exclusive of Newfoundland.

Province and Year	Hens over Six Months Old	Total Hens and Chickens	Turkeys	Geese	Ducks
	'000	'000	'000	'000	'000
Prince Edward Island.....1941	404 ¹	807	15	19	10
1951	382	978	16	20	15
1952	436	925	18	21	15
1953	415	870	17	20	15
Nova Scotia.....1941	495 ¹	1,113	15	6	4
1951	545	1,630	31	5	4
1952	595	1,480	28	4	3
1953	670	1,530	25	4	3

For footnote, see end of table, p. 156.

Poultry on Farms, by Province, June 1, 1941 and 1951-53—concluded

Province and Year	Hens over Six Months Old	Total Hens and Chickens	Turkeys	Geese	Ducks
	'000	'000	'000	'000	'000
New Brunswick.....	1941 483 ¹	1,102	33	9	4
	1951 426	1,231	42	6	5
	1952 475	1,145	44	5	5
	1953 460	1,090	50	6	5
Quebec.....	1941 3,204 ¹	8,063	173	46	36
	1951 3,010	10,090	423	14	50
	1952 3,500	9,875	440	13	49
	1953 3,300	9,800	375	14	53
Ontario.....	1941 7,661 ¹	21,764	678	296	319
	1951 6,838	23,767	666	139	165
	1952 7,000	20,700	692	137	166
	1953 7,300	23,400	568	147	168
Manitoba.....	1941 2,278 ¹	5,748	601	64	57
	1951 1,874	6,458	311	55	65
	1952 2,100	6,667	418	62	65
	1953 2,050	6,190	355	59	63
Saskatchewan.....	1941 4,326 ¹	9,731	992	87	71
	1951 2,592	8,587	400	34	51
	1952 2,720	8,680	587	43	74
	1953 2,690	7,900	470	45	63
Alberta.....	1941 3,111 ¹	7,953	656	116	96
	1951 2,447	8,348	395	65	62
	1952 2,550	8,420	640	80	95
	1953 2,600	8,280	530	78	91
British Columbia.....	1941 1,170 ¹	2,713	42	7	25
	1951 1,092	3,452	243	14	20
	1952 1,320	3,840	300	21	25
	1953 1,280	3,900	225	15	27
Totals.....	1941 23,132¹	58,994	3,205	650	622
	1951 19,206	64,541	2,527	352	437
	1952 20,696	61,732	3,167	386	497
	1953 20,765	62,960	2,615	388	488

¹ Hens and cocks, old stock. Poultry elsewhere than on farms (exclusive of Newfoundland) in 1951, with 1941 data in brackets, were: hens and chickens 2,256,921 (4,544,023) and other poultry 151,727 (131,498). In 1951 there were 278,183 hens and chickens and 13,487 other poultry in Newfoundland.

Fur Farming

The fur farms of Canada produce many types of fur-bearing animals but mink and fox are by far the most important. Of the 3,072 fur farms in operation in 1951, 2,324 reported 292,125 mink valued at \$8,022,408 and 609 reported 14,336 foxes valued at \$341,839. The decline in popularity of the long-haired furs and the increasing interest in mink in its various colour phases has effected a change in the fur-farm picture. The number of foxes on farms decreased from 157,053 in 1937 to 14,336 in 1951 while mink, both standard and mutation types, increased in the same period from 71,410 to 292,125. In 1951, mutation mink comprised 38 p.c. of the total on farms compared with 31 p.c. in 1950. The raising of mink is conducted now mainly on scientifically managed farms with the emphasis on quality and production of new colour phases. Of the total mink farms, 48 p.c. had 80 or more animals. Alberta had 284 farms in this group and Manitoba had 261. The introduction of the chinchilla by the fur-farming industry has created a new interest. These small fur-bearers, first brought in from South America in 1937, have increased on farms until in 1951 8,530 were reported valued at \$1,800,000. The establishment of a market for chinchilla pelts is progressing.



R.O.P. New Hampshire breeding cockerels on a Western Canada chicken ranch.

The geographical distribution of farms has changed considerably over the years. Whereas the Maritime Provinces with their once-prosperous fox farms were the early centre of the industry, the recent widespread raising of mink in the other provinces has resulted in the bulk of the fur farms now being farther west. In 1951, British Columbia had 10.4 p.c. of the total fur farms, the Prairie Provinces 38.0 p.c., Ontario 29.4 p.c., Quebec 12.7 p.c. and the Maritimes 9.5 p.c.

The number of all pelts produced in 1951 was 663,094 valued at \$11,418,055 compared with 617,034 in 1950 valued at \$10,286,868. The average prices of the main kinds of pelts taken in 1951-52 were considerably lower than in the previous year, with the exception of mutation mink which rose slightly from \$21.60 to \$21.99. A standard mink pelt brought \$16.87 and a silver fox pelt \$11.48.

Special Crops

Fruit.—Fruit is grown on a commercial scale in Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. The most important producing areas are in the Provinces of Ontario and British Columbia which, according to the 1951 Census, produced 82 p.c. by value of all fruit in 1950—Ontario 49 p.c. and British Columbia 33 p.c. These figures show a further concentration of the industry in these two Provinces since 1940 when together they produced 73 p.c. of the value of the fruit crop—Ontario 46 p.c. and British Columbia 27 p.c. In most of the producing areas, particularly the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan



Cleaning, polishing, grading and individually wrapping apples by machine on a Quebec fruit farm. The cellophane covering gives the apples greater "eye appeal" and protects them against handling and soiling.

Valley of British Columbia, fruit-growing is the principal agricultural crop and its prosperity is of paramount importance to the economy of those areas.

The apple crop is, of course, of major importance among the fruits grown, there being large plantings in each of the above-mentioned provinces. Strawberries and raspberries are also produced in commercial quantities in these provinces but production of pears, peaches, cherries, plums and prunes is very largely confined to British Columbia and Ontario. Ontario produces practically all the grapes grown in Canada and British Columbia is the only province in which there is a commercial apricot industry.

The Nova Scotia apple industry, and indeed the entire Canadian apple industry, has been going through a period of readjustment since about the beginning of World War II. During the War the shipping shortage precluded large movements of apples overseas and in most years since then currency problems have either blocked this trade entirely or restricted it severely. Thus the Canadian apple industry has found it necessary to make certain adjustments regarding production and marketing. The numbers of trees have had to be reduced and a larger proportion of the crop diverted to the domestic market.

Estimates place the 1953 apple crop at 11,200,000 bu., some 850,000 bu. lower than the 1952 production. Decreases in Nova Scotia, New Brunswick and British Columbia more than offset increases in Ontario and Quebec. The pear crop in 1953 exceeded the 1952 output but all other tree fruits were down in quantity. Also, the unfavourably dry weather during the 1953 picking season in Eastern Canada affected the production of strawberries, the most important of the small fruits grown. The November 1953 estimates of production, with final estimates for 1952 in parentheses, were: apples 11,192,000 bu. (12,049,000 bu.), pears 1,427,000 bu. (1,303,000 bu.), plums and prunes 786,000 bu. (896,000 bu.), peaches 2,773,000 bu. (2,917,000 bu.), apricots 210,000 bu. (243,000 bu.), cherries 460,000 bu. (505,000 bu.),

strawberries 28,149,000 qt. (32,368,000 qt.), raspberries 12,594,000 qt (10,829,000 qt.), loganberries 1,611,000 lb. (1,240,000 lb.), and grapes 73,461,000 lb. (86,481,000 lb.).

Values of Fruits Produced, 1949-52, with Averages 1944-48

Fruit	Average ¹ 1944-48	1949	1950	1951	1952
	\$'000	\$'000	\$'000	\$'000	\$'000
Apples.....	18,181	12,989	12,467	13,893	16,654
Pears.....	1,826	2,055	1,877	2,238	2,088
Plums and prunes.....	1,379	961	1,016	865	967
Peaches.....	4,370	4,365	2,754	4,004	3,785
Apricots.....	367	612	77	116	344
Cherries.....	2,060	3,139	2,065	2,263	2,251
Strawberries.....	4,582	5,456	6,742	5,662	5,721
Raspberries.....	3,288	2,476	2,840	3,133	2,867
Grapes.....	2,842	2,013	3,543	2,813	3,050
Loganberries.....	211	114	166	147	224
Totals, All Fruits.....	39,106	34,180	33,547	35,134	37,951

¹ Includes packing costs in British Columbia for years 1944 and 1945.

Canning and processing industries have developed in the fruit-growing districts and although the importance of the processing market varies with different fruits it provides a valuable outlet for substantial proportions of most Canadian-grown fruit crops. Some canned fruits are exported.

Tobacco.—Production of all types of tobacco in 1953 was estimated at about 122,100,000 lb., a reduction of almost 13,000,000 lb. from the 1952 total. Because of the prospect of increased purchases by the United Kingdom, the Flue-Cured Marketing Association of Ontario allowed 75 p.c. of the growers' base acreage to be planted to flue-cured tobacco in 1953 as compared with 67 p.c. in 1952. In 1953 variable weather conditions were experienced in the

Holly for the Christmas trade is grown on Vancouver Island, B.C.



tobacco-growing areas of Ontario and Quebec. Drought in early August, frost in early September, intermittent rain and hail storms and occasional barn fires failed to reduce the original target of 120,000,000 lb. of flue-cured tobacco in Ontario. Tobacco acreages in 1953, with data for 1952 in brackets, were: Quebec 9,420 acres (7,997); Ontario 94,896 acres (83,548); and British Columbia 100 acres (94).

Honey.—Honey is produced commercially in all provinces of Canada, Ontario being the largest producer. Farm cash income from the sale of honey averages around \$5,000,000 annually and there is a considerable movement



Daffodils, tulips, iris, narcissi and hyacinths grown on Vancouver Island and on the southern mainland of British Columbia near Vancouver are shipped to prairie and Eastern Canada markets. Mass production of these blooms and bulbs has become a big business.



of the product, particularly from the Prairie Provinces to other parts of Canada and to other countries.

The 1953 honey crop is estimated at 26,200,000 lb., which is 5,000,000 lb. lower than the 1952 output and the smallest crop since 1946 when 23,200,000 lb. were produced. Reductions in yield were reported by all provinces except Manitoba, Saskatchewan and British Columbia, but the lower production was mostly accounted for by a small crop in Ontario. Winter killing of legumes in both Ontario and Quebec cut down bee pastures and resulted in a dearth of nectar during the summer. The number of colonies in 1953 was estimated at 363,400 as compared with 385,550 in 1952.

Sugar Beets.—Sugar beets are grown commercially in Quebec, Ontario, Manitoba and Alberta, and seven beet-sugar factories are located in these Provinces. In 1953 the area devoted to this crop was 81,813 acres and the production amounted to 898,000 tons compared with an area of 92,607 acres in 1952 and a production of 1,023,000 tons. The late open fall of 1953 was very favourable to harvesting operations in all sugar-beet growing areas. Harvested acreages in 1953, with data for 1952 in parentheses, were: Quebec 6,865 (7,892); Ontario 22,815 (31,563); Manitoba 17,450 (16,411); and Alberta 34,683 (36,741).

Maple Products.—In 1953, 1,816,000 gal. of maple syrup and 1,324,000 lb. of maple sugar were produced. The gross farm value of these products amounted to \$7,306,000. The production of all maple products expressed as syrup was down by 44 p.c. from that of 1952 but the 1952 crop was exceptionally large. The Eastern Townships area of Quebec is the centre of the maple-products industry; 93 p.c. of the syrup and 96 p.c. of the sugar produced in Canada in 1953 came from that district. Small amounts are also produced in Nova Scotia, New Brunswick and Ontario. Most of the syrup sold in Canada is marketed in one-gallon cans direct to the consumer from the producer, only a small portion being sold to processing firms.

Seeds.—Volumes of the different types of seeds produced in Canada in 1951 and 1952 for the commercial market were as follows:—

Seed Production, by Kind, 1951 and 1952

Kind	1951	1952	Kind	1951	1952
	'000 lb.	'000 lb.		lb.	lb.
Hay and Pasture—					
Alfalfa.....	5,088	13,543	Cabbage.....	40	30
Red clover.....	12,931	9,882	Carrot.....	9,700	6,300
Alsike.....	1,665	8,408	Cauliflower.....	670	200
Sweet clover.....	17,507	16,700	Corn.....	188,600	205,000
White clover.....	58	34	Cucumber.....	360	1,430
Timothy.....	9,140	14,735	Leek.....	700	380
Brome grass.....	10,200	14,350	Lettuce.....	4,600	8,100
Crested wheat grass	875	781	Mangel.....	3,800	9,000
Creeping red fescue	1,500	2,425	Onion.....	16,700	8,500
Canadian blue grass	100	93	Parsnip.....	1,600	2,600
Kentucky blue grass	500	5	Pea.....	8,105,800	9,513,000
Meadow fescue....	454	152	Pepper.....	280	340
			Pumpkin.....	90	210
Vegetable and Field			Radish.....	9,000	10,100
Root—	lb.	lb.	Spinach.....	2,100	—
Asparagus.....	10,500	7,000	Squash and marrow	2,000	2,860
Bean.....	915,200	1,148,000	Sugar beet.....	495,300	542,000
Beet.....	8,900	14,500	Swede.....	47,400	65,300
			Tomato.....	1,500	1,800



McCormick Dam on the Manicouagan River near Baie Comeau, Que. Power from this plant is supplied to Baie Comeau and later may be transmitted south across the St. Lawrence River by submarine cable. Two 56,200-h.p. units were in operation in 1953—ultimate capacity is 270,000 h.p.

Water Power

CANADA is well endowed with water-power resources. In most sections of the country adequate precipitation and favourable topography result in numerous fast-flowing rivers with many falls and rapids capable of development. This is particularly true of British Columbia and that portion of central and northern Canada lying within the Canadian Shield. In the eastern provinces, precipitation is moderately heavy and the rivers, while not large, afford many possibilities for moderate-sized developments. Only the prairies of the south middle-west are without hydro-power resources, a lack compensated for by the tremendous coal and oil reserves of that area.

Under present hydraulic practice, the water-power resources of Canada would allow an economic turbine installation of nearly 66,000,000 h.p. Slightly less than 22 p.c. of this potential is now being utilized.

The Great Lakes-St. Lawrence River system forms a large part of the power resources of Ontario and Quebec and is the most highly developed in Canada, a fact that has had a marked influence on the rapid industrialization of these two Provinces. The gradual change-over of Canada generally from an agricultural to a highly industrialized economy has coincided with the growth of water-power development. Low-cost power is fundamental in meeting the enormous requirements of the pulp and paper industry, in permitting the economic mining, milling and refining of base and precious metals and in facilitating the fabrication of many raw materials into a multitude of manufactured articles. From hydro-electric plants ranging in capacity from a few hundred to more than 1,000,000 h.p., networks of transmission lines carry power to most urban centres and to an increasing number of rural districts. This wide distribution of power has facilitated the decentralization of industry, enabling manufacturing processes to be carried on in many of the smaller centres of population. Economical domestic service, too, contributes in no small measure to the high standard of living enjoyed in Canada.

Provincial Distribution of Water-Power.—*Nova Scotia* and *New Brunswick*, despite the lack of large rivers, have valuable sources of hydraulic power, a considerable proportion of which has been developed. Tentative estimates give the Island of *Newfoundland* a potential of about 500,000 h.p., 50 p.c. of which has been developed; in *Labrador*, the Hamilton River is outstanding as a potential source of power.

Quebec ranks highest in available water-power resources, having more than 40 p.c. of the total recorded for all Canada; its power development has been remarkable, its present installation of 7,717,860 h.p. representing over 50 p.c. of the total for Canada. The St. Lawrence River Beauharnois development of 1,408,000 h.p. and the Saguenay River Shipshaw development of 1,200,000 h.p. are the two largest in the country. The Province of *Ontario* has extensive water-power resources and in total hydro-power developed is exceeded only by Quebec. The Hydro-Electric Power Commission of Ontario

operates 64 hydro-electric stations with a total capacity of more than 3,200,000 h.p., the largest being the Niagara River Queenston plant of 560,000 h.p. Also a large amount of power is purchased from Quebec.

Manitoba has more water-power resources and has developed them to a greater extent than either of the other Prairie Provinces. Practically all the developed sites are located on the Winnipeg River. These supply not only Winnipeg and its suburban areas but, through the transmission network of the Manitoba Power Commission, power is distributed to more than 400 municipalities and a large part of the rural areas of southern Manitoba where farm electrification is a primary objective. In *Saskatchewan*, water-power development is confined to the northern mining districts. The southern portions of Saskatchewan and Alberta are lacking in water-power resources but have large fuel reserves. In *Alberta*, present developments are located in the Bow River basin and serve Calgary and numerous other municipalities between the International Boundary and the area north of Edmonton.

British Columbia ranks second among the provinces in available water-power resources and its hydraulic development is exceeded only by Quebec and Ontario. Present developments are practically all located in the southern part of the Province in the Fraser and Columbia River basins. In the *Yukon* and *Northwest Territories*, power has been developed for local mining purposes.

Available and Developed Water Power, by Province, Jan. 1, 1954

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	958,500	2,754,000	306,150
Prince Edward Island.....	500	3,000	1,900
Nova Scotia.....	25,500	156,000	171,433
New Brunswick.....	123,000	334,000	166,018
Quebec.....	10,896,000	20,445,000	7,717,860
Ontario.....	5,407,000	7,261,000	4,007,576
Manitoba.....	3,333,000	5,562,000	716,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	508,000	1,258,000	207,960
British Columbia.....	7,023,000	10,998,000	1,702,858
Yukon and Northwest Territories.....	382,500	814,000	32,390
Canada.....	29,207,000	50,705,000	15,140,880

Hydro-Electric Construction during 1953.—Activity in the development of water-power sites for the production of electric energy continued at a high level during 1953. A total of 853,402 h.p. of new turbine capacity was brought into operation, although the net increase in capacity shown over 1952 was slightly less than this amount owing to adjustments for old plants that were written off. At the end of 1953, a number of plants with a total capacity of about 1,000,000 h.p. were under advanced construction for operation in 1954; preliminary and semi-advanced construction, tentatively rated at 2,000,000 h.p., was under way on other projects for operation in later years.

Ontario.—The Hydro-Electric Power Commission of Ontario completed the final unit of 33,000 h.p. in the Otto Holden Generating Station on the

he completed Sir Adam Beck
No. 2 Generating Station at
Niagara—one of the most
unique engineering under-
takings on the continent—
will have a capacity of
1,828,000 h.p. and will cost
an estimated \$320,978,000.
The station will be officially
opened in August 1954.

he main powerhouse situated
at the foot of the Niagara
gorge, six miles below the
cataracts.

win $5\frac{1}{2}$ -mile tunnels, roughly
45 feet in diameter, will
convey 15,000,000 gal. of
water per minute from in-
takes above the Falls to a
 $2\frac{1}{2}$ -mile open-cut canal and
thence to the generating
station.



Ottawa River, total capacity being 264,000 h.p. On the Niagara River excellent progress was achieved on the Sir Adam Beck Generating Station No. 2. The station will have an ultimate capacity of 1,828,000 h.p., of which possibly 500,000 h.p. will come into operation in 1954. The project involves intake works in the upper Niagara River, two 45-foot tunnels five and one-half miles in length, two and a quarter miles of canal, a pumped-storage reservoir, head works and a powerhouse. At its Pine Portage plant on the Nipigon River, the Commission is adding a unit of 45,000 h.p. for 1954 operation. The two large steam-electric plants of the Commission—376,000 kw. at Toronto and 264,000 kw. at Windsor—were completed in 1953. The Great Lakes Power Company brought into operation its two-unit 20,000-h.p. plant at Scott Falls on the Michipicoten River and continued construction on a development of 15,000 h.p. at McPhail Falls, a few miles upstream, for 1954 operation.

Quebec.—The orderly development of the Province's great water-power resources was continued, with 478,250 h.p. of new capacity completed in 1953 and with other large projects under construction. The Quebec Hydro-Electric Power Commission increased the capacity of its Beauharnois development by two units totalling 111,000 h.p., bringing total capacity to 1,408,000 h.p.; dredging in the intake canal is being continued and further units will be added as required up to the ultimate capacity of 2,000,000 h.p. On the upper Ottawa River, the Commission completed development of 16,000 h.p. at Rapid II and, on the Bersimis River, began construction of a development with an ultimate capacity of about 1,200,000 h.p.; initial operation is planned for 1956, part of the power to be delivered to the Gaspé Peninsula by submarine cable.

The Aluminum Company of Canada completed its Chute-à-la-Savanne plant on the Peribonka River, one unit of the five-unit development of 275,000 h.p. having been brought into operation in 1952. The Manicouagan Power Company brought in the second unit of 56,200 h.p. at its plant on the Manicouagan River; units will be added as required, ultimate capacity being 270,000 h.p. Price Brothers and Company completed two plants on the Shipshaw River, one of 70,000 h.p. and one of 9,000 h.p. The Ste. Marguerite Power Company made good progress on the construction of its two-unit 17,000-h.p. plant on the Ste. Marguerite River, for 1954 operation, to serve the Sept Îles district. The City of Megantic brought in one unit of 2,250 h.p. in its new plant on the Chaudière River; the second unit is to be installed at a later date.

British Columbia.—The British Columbia Power Commission completed the installation of two additional units each of 28,000 h.p. in its John Hart plant on the Campbell River, bringing total capacity to 168,000 h.p. The Consolidated Mining and Smelting Company completed the initial stage of its Waneta development on the Pend d'Oreille River, consisting of 210,000 h.p. in two units; ultimately two additional units will be installed. The Aluminum Company of Canada made excellent progress on its great Nechako-Kitimat scheme, involving diversion of the headwaters of the Fraser River through the coastal range by a ten-mile tunnel to an underground powerhouse. It is anticipated that the first stage of installation covering 420,000 h.p. in three units will be completed in 1954. The British Columbia Electric Company Limited has under way the installation of the fourth unit of 62,000 h.p. in its

electronics engineers
installing the telecom-
munications system in
the master control
rooms of the CBC
Television Building,
Montreal.

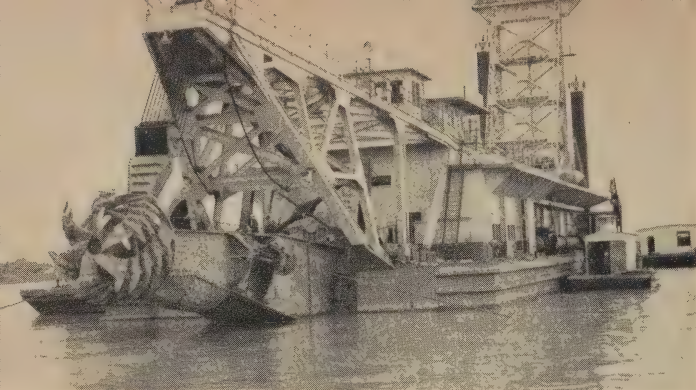


Bridge River plant for 1954 operation; the Lajoie Dam is being raised to provide increased storage. Two smaller developments were completed in 1953, one of 3,200 h.p. at Port Alice by Alaska Pine and Cellulose Limited and one of 1,200 h.p. on Wilson Creek by Violamac Mines. In *Yukon Territory*, the Yukon Hydro Company added a new unit of 940 h.p. to its Porter Creek plant near Whitehorse.

Prairie Provinces.—Calgary Power Limited has under way the installation of a new unit of 30,000 h.p. in its Ghost plant on the Bow River for 1954 operation; also, good progress was made on the Bearpaw development, near Calgary, of 22,000 h.p. for 1955 completion. The Manitoba Hydro-Electric Board was actively engaged on the construction of the McArthur Falls development of 80,000 h.p. on the Winnipeg River for 1955 operation.

In addition to water-power development, the capacities of steam-electric plants were increased by 30,000 kw. by the City of Edmonton, 30,000 kw. by the City of Medicine Hat and 25,000 kw. by the City of Winnipeg. Plans of the Saskatchewan Power Corporation call for an addition of 20,000 kw. at Estevan in 1954 and of 50,000 kw. at Saskatoon during 1954-57.

Atlantic Provinces.—The New Brunswick Electric Power Commission completed its 27,000-h.p. development on the Tobique River and was planning the development of about 100,000 h.p. at the Beechwood site on the St. John River. The Commission also added 18,750 kw. capacity to its steam plant at Grand Lake. The St. George Pulp and Paper Company completed the modernization of its plant on the Magaguadavic River, increasing capacity by 2,812 h.p. to a total of 7,812 h.p. The Nova Scotia Light and Power Company Limited completed a development of 9,000 h.p. on the Nictau River and an addition of 22,500 kw. capacity to its steam plant at Halifax. The Newfoundland Light and Power Company Limited brought into operation its second development on the Horse Chops River of 10,000 h.p. in one unit and has undertaken the construction of a plant of 20,000 h.p. on Pipers Hole River for 1955 operation. The Anglo-Newfoundland Development Company



The world's largest hydraulic dredge now being used to clear the Beauharnois Canal near Montreal. An 8,000 h.p. motor drives the centrifugal pump which is capable of sucking and discharging 1,500 lb. boulders.

Limited increased the capacity of its Bishop Falls plant on the Exploits River by 2,000 h.p. by replacement of turbines. In Labrador, the Iron Ore Company proceeded with the installation, for 1954 operation, of two units each of 6,000 h.p. in its new plant on the Ashuanipi River, which has an ultimate capacity of 24,000 h.p.

Central Electric Stations

Central electric stations represent what is known as the electric-power industry and are either commercial or privately owned stations or are publicly owned, that is, operated by federal, provincial or municipal governments. They include both wholesale and retail distribution systems, whether the energy is generated in their own plants or purchased for resale. They are also classified according to the kind of power used—hydraulic or water-driven, fuel or steam, and non-generating or distributing only.

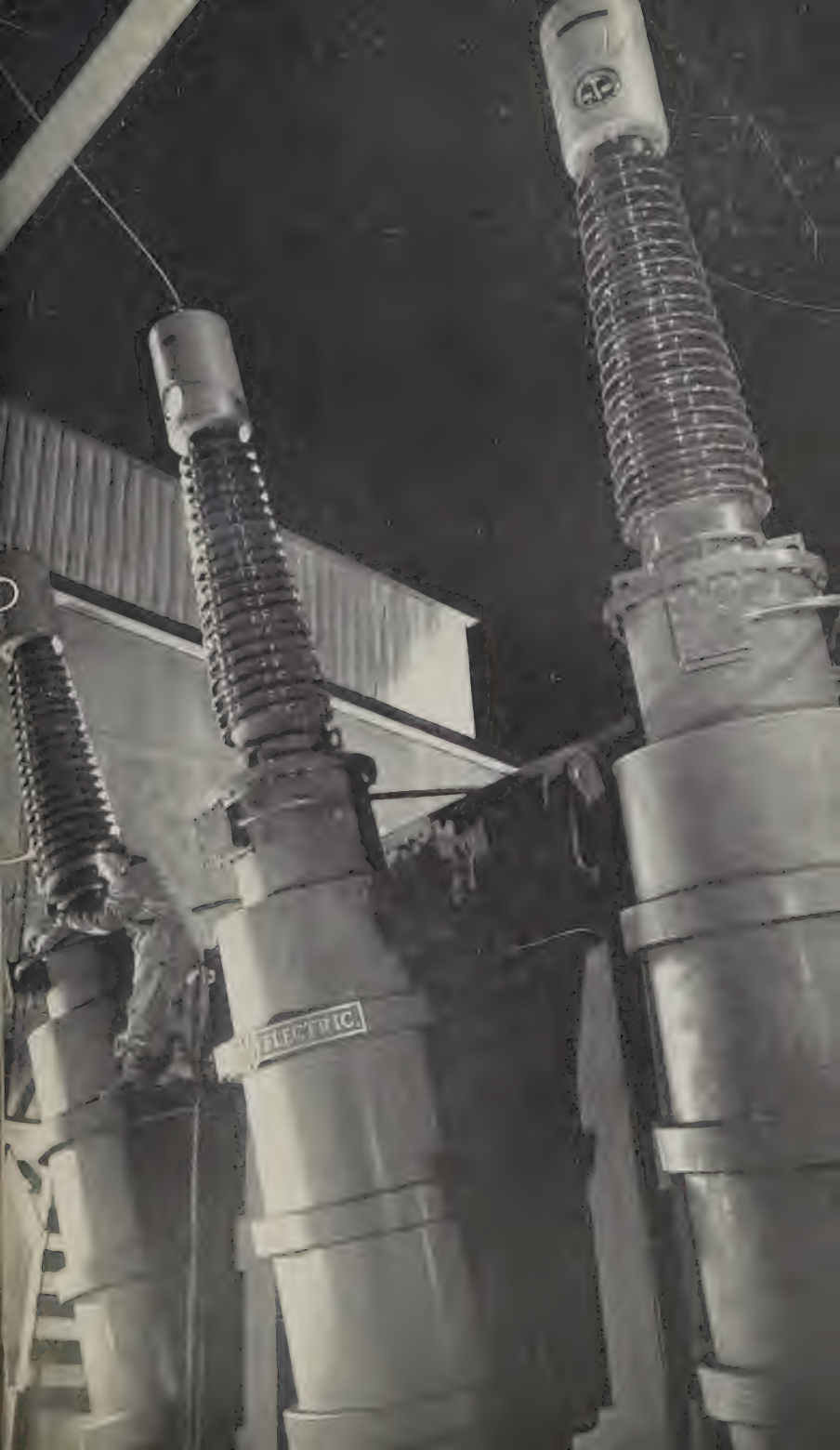
The 357 hydraulic stations in Canada generate almost 97 p.c. of the total output of central electric stations and are the major sources of power for the pulp and paper, aluminum, smelting and other manufacturing industries. Canadians enjoy the advantage of probably the cheapest electricity in the world, in great volume, with a turbine installation of over 15,000,000 h.p. More than half the farms in Canada and the great majority of urban homes have the benefits of power-line service. Revenues of central electric stations in 1951 totalled over \$374,643,000.

Based on monthly output data, the generation of central electric stations since 1929 was as follows:—

	1929	1939	1949	1952	1953
	('000 kwh.)				
Generated by—					
Water power.....	17,294,463	27,861,784	45,084,284	59,510,551	61,608,324
Thermal engines.....	331,464	489,730	1,588,930	2,275,484	3,880,929
TOTALS.....	<u>17,625,927</u>	<u>28,351,514</u>	<u>46,673,214</u>	<u>61,786,035</u>	<u>65,489,253</u>

Electric energy is exported from Canada under licence and an export tax of 0.03 cents per kilowatt hour is levied. Exports totalled 1,756,752,000 kwh. in 1949, 2,493,032,000 kwh. in 1952 and 2,424,030,000 kwh. in 1953.

Giant transformers step up the power in the 82,000-h.p. Waleach Generating Station in the Fraser Valley, B.C., brought in production in December 1952. The first ultra-high-voltage transmission line to be built in North America carries power at 230,000 volts from the Waleach plant to Vancouver.





Log drive on the Gatineau River, Que

Forestry

CANADA's forests and forest industries play a vital part in the national economy. They provide direct employment for hundreds of thousands of persons. They yield the largest amount of foreign exchange of any industrial group. They contribute significantly to the national income and, because the forests are a renewable asset, they can be considered inexhaustible. Present-day demands for lumber, pulp, newsprint and other forest products stand at unprecedented levels and it seems certain that they will reach even greater heights in the years to come. All Canadian forest industries are working at or near capacity and manufacturing facilities are being increased from year to year. In these circumstances the attention of governments, of industry and of the public at large has been drawn to the need for conserving the productivity of the forests and for protecting them against avoidable losses. Very much remains to be done, but the rate of progress towards more orderly forest management encourages the conviction that these forest lands are capable of yielding more benefits in the future than they have in the past and of doing so in perpetuity.

The Canadian forests stretch in a belt generally from 600 to 1,000 miles wide across the eastern provinces, curving northward on the prairies and dipping southward again to cover much of the Province of British Columbia. The forests of the Yukon and Northwest Territories and of northern Quebec form a transition zone between the Arctic tundra and the forested and agricultural lands to the south. The total forested area* is estimated to be 1,320,321 sq. miles, 37 p.c. of the country's total land area. The forests within the provinces occupy 60 p.c. of provincial lands. Over 40 p.c. of the total forested area is classified as 'non-productive' forest incapable of producing crops of merchantable timber because of adverse climatic, soil and moisture conditions. Although these lands are of little significance to the forest industries, they do provide valuable protection for drainage basins and shelter for game and fur-bearing animals. The country's 'productive' forests extend over some 764,333 sq. miles—22 p.c. of the total land area of Canada and over one-third of the land area of the ten provinces. A total of 503,000 sq. miles, or 66 p.c. of the productive area, is considered accessible for economic exploitation. Trees of merchantable dimensions occupy 60 p.c. of this accessible area, while the remainder consists of young trees that will grow to merchantable size. The inaccessible productive forests, 261,000 sq. miles in extent, constitute a reserve for the future.

Of the total productive forests, approximately 61 p.c. is comprised of softwood, 25 p.c. mixed wood and 14 p.c. hardwood. There are more than 150 tree species in Canada, 31 of which are conifers.

Of Canada's occupied forest lands, 32 p.c. is privately owned; the other 68 p.c. is still in the possession of the Crown in the right of either the federal or provincial governments. Forests lying within the boundaries of the provinces, as with other natural resources, are administered by the provincial governments. The Federal Government is responsible for administration of forests in the Yukon and Northwest Territories, national parks and forest

* All figures in this section are exclusive of Labrador, for which information is not yet available.



*Felling a 200-foot
500-year-old Dou-
glas Fir, Vancou-
ver Island, B.C.*

experiment stations. The general policy of the federal and provincial governments is to dispose of the timber under their jurisdiction by means of leases and annual licences to cut, rather than by the outright sale of timberland. Under this system the Crown retains ownership of the land and control of cutting operations. Revenue is received in the form of timber dues or stumpage, ground rent and fire-protection taxes.

Primary wood products cut from the forests were estimated to average about 3,980,000,000 cu. feet in the five years 1947-51. Total depletion for that period averaged 3,275,000,000 cu. feet, including an estimated 205,000,000 cu. feet destroyed by forest fires and 500,000,000 cu. feet by insects and diseases. Since almost all of Canada's forest products are cut from the 312,438 sq. miles of occupied forest regions, it seems probable that considerable portions of the Canadian forests are being cut too heavily at present. Of vital importance then are the increasing activities of governments and industry alike in the fields of forest research and forest management. The different provinces are requiring lessees of Crown lands to establish and improve forest working plans in accordance with sound forestry principles; research in forestry and in the utilization of forest products is being intensified in order that the forest manager may be provided with essential information; the Federal Government, under the terms of the Canada Forestry Act 1949, is assisting the provinces in the completion of their forest inventories and in the reforestation of Crown lands. Protective services are being strengthened through improvements in organization and equipment, and through research. Most provinces have stepped-up production of planting stock for the reforestation of Crown and private lands. Along with these tangible efforts is a growing awareness

on the part of the people of Canada of the immense economic value of the forest resources entrusted to their care.

Forest Industries

The forest industries of Canada comprise woods operations, the lumber industry, the pulp and paper industry, and the wood-using and paper-using groups of industries, the latter groups using partially manufactured wood, pulp, or paper as their raw materials. The net value of production for the forest industries was \$1,965,000,000 in 1951, which was 28 p.c. of the net value of production for all Canadian industries.

In 1951, more than 371,000 men and women were directly dependent upon the forest industries for their livelihood—seven out of every 100 Canadian workers. The logging industry employed 158,000, the lumber industry 62,000, the pulp and paper industry 57,000 and the wood-using and paper-using industries 94,000.

Woods Operations.—East of the Rocky Mountains, logging operations are generally carried on by individual lumber companies and by pulp and paper companies, although the latter obtain a moderate part of their requirements from independent pulpwood loggers. In British Columbia most of the large lumber companies operate their own logging units. Truck logging has almost replaced railroad operations and, as a result, there has been some increase in the number of small independent truck loggers but their output is only a small proportion of the total for the Province. A not inconsiderable part of the country's primary forest production comes from farm woodlots;

A river of pulpwood in New Brunswick. In the extensive forests of that Province, red spruce is dominant and is usually associated with balsam fir, white and black spruce, hemlock, yellow birch and sugar-maple.





The provincial governments, which own and administer the greater part of the forest areas of Canada, are actively concerned with the protection of the forest resources within their respective boundaries. Their efforts are supplemented by the research service of the Federal Government and the management and protection activities of pulp and paper and lumber companies.

the chief product is fuelwood, but quite large quantities of pulpwood, sawlogs and wood products for use on the farm and for wood-using industries are also produced from these areas. The output of primary forest products has continued to increase both in volume and value—1951 production amounted to over 3,602,000,000 cu feet valued at \$782,525,015.

Value of Primary Forest Production, 1950 and 1951

Product	1950	1951
	\$	\$
Logs and bolts.....	253,649,547	316,027,115
Pulpwood.....	285,762,620	381,920,846
Firewood.....	49,804,328	50,521,011
Hewn railway ties.....	495,509	612,583
Poles.....	19,209,308	13,249,988
Round mining timber.....	3,767,076	6,420,818
Fence posts.....	2,906,249	2,920,922
Wood for distillation.....	425,918	466,491
Fence rails.....	705,106	671,491
Miscellaneous.....	9,008,942	9,713,750
Totals.....	625,734,603	782,525,015

Domestic utilization of primary forest products runs at about 95 p.c. of the total output. Practically all logs, bolts and fuelwood produced are used within the country as well as between 85 and 90 p.c. of the pulpwood.

Lumber.—In 1951 the lumber industry led all other manufacturing industries in total employment and placed second in net value of products as well as in total wages and salaries paid. The number of active sawmills was 7,934. These mills are widely distributed across the country—wherever merchantable trees grow and markets have been developed for lumber products. Most of the larger mills are in British Columbia where the handling of large trees requires specialized and massive mechanical equipment that, in turn, necessitates the building of permanent mills employing large staffs and operating throughout the year. In contrast, the smaller trees of eastern forests make



Preparing for spraying operations in the battle against the spruce budworm infesting northern New Brunswick forests.

Forest fire spotted from a provincial government fire control aircraft in the Lac la Ronge area of northern Saskatchewan.

Taking light readings in a birch research area in Ontario.



Pine trees grown at a provincial government forest station are being removed from 'heeling-in' beds—they will be packed and shipped to transplanting areas.



it economically feasible to build smaller and comparatively inexpensive mills that generally operate in the summer and autumn seasons.

Production of Sawn Lumber and All Sawmill Products, 1951

Province or Territory	Sawn Lumber Production		Total Sawmill Products
	'000 ft. b.m.	\$	\$
Newfoundland.....	41,981	2,456,588	2,727,335
Prince Edward Island.....	10,465	543,019	610,578
Nova Scotia.....	331,906	19,987,788	21,534,108
New Brunswick.....	292,097	18,892,064	22,124,951
Quebec.....	1,182,986	78,867,947	89,401,801
Ontario.....	820,696	60,802,961	76,072,011
Manitoba.....	60,071	3,873,547	4,112,135
Saskatchewan.....	78,694	4,281,687	4,497,183
Alberta.....	398,295	20,405,750	22,667,881
British Columbia.....	3,723,877	296,883,313	347,147,390
Yukon and Northwest Territories.....	7,629	655,577	656,376
Canada.....	6,948,697	507,650,241	591,551,749

The 1951 gross value of \$591,551,749 includes the following commodities: sawn lumber (\$507,650,241); shingles (\$27,977,418); sawn ties (\$10,689,031); processed pulpwood (\$7,743,116); box shooks (\$5,643,713); spoolwood (\$2,214,116); flatted mine timbers (\$1,603,455); staves (\$1,210,672); lath (\$1,042,196); pickets (\$536,072); heading (\$481,929); and other wood products and by-products (\$24,759,790).

Over 49 p.c. of the sawn lumber produced in 1951 was exported and the remainder was used in Canada for structural work and by wood-using industries.

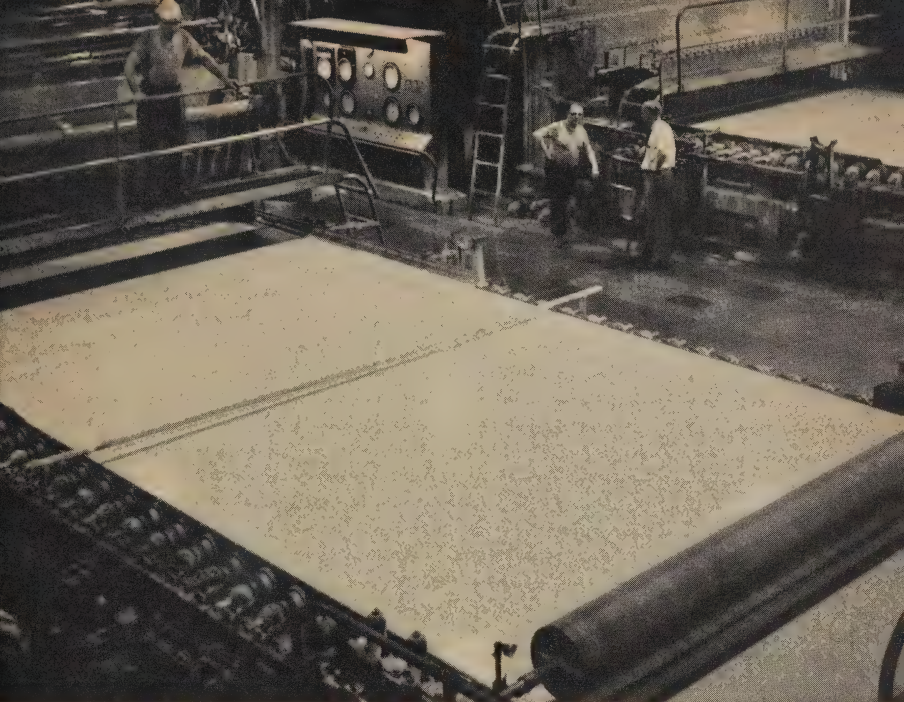
The Pulp and Paper Industry.—In scope, in production, and in international trade, the pulp and paper industry of Canada is one of the major industrial enterprises of the world. The industry's exports of both pulp and paper exceed those of any other country. Indeed, Canada is the source of far more than half of the newspaper pages printed around the globe.

Newsprint accounts for the largest proportion of the output of all the pulp and paper mills. However, in recent years other sectors of the industry have apparently been more attractive to capital; before the War newsprint accounted on the average for approximately 70 p.c. of the output of all the mills, while to-day newsprint accounts for only about 56 p.c. of the production.

Ranking next to newsprint in importance are the mills making pulp for sale. The output of this part of the industry has increased more than three-fold since pre-war days while newsprint production has increased by 47 p.c. since 1938. As with newsprint, close to 94 p.c. of the production of pulp for sale is shipped abroad and, also like newsprint, pulp exports move chiefly to the United States market.

The remainder of the industry, accounting for some 17 p.c. of the output, is engaged in the manufacture of paperboard, of fine paper of all types and kinds, of wrapping paper, and of various building paper and boards.

While newsprint, like pulp, generally moves freely in world markets without tariff restrictions, these other grades of paper and of paperboard have been shut out of many markets abroad by tariffs; hence the mills producing these grades are operating mainly to meet domestic requirements.



Wet ends of two fast and wide fine-paper machines, where the pulp is evenly distributed on a moving screen of fine wire through which the water drains, leaving a mat of fibres.

A fundamental fact affecting the long-term outlook for the Canadian industry is that on this continent two-thirds of the paper consumed is used for industrial purposes such as multiwall paper sacks and paperboard containers in their myriads of forms. The other third of consumption is used for cultural purposes—the printed word in all its forms including comics and advertising. Since 1920, the industrial consumption of paper has increased more than threefold and consumption for cultural purposes has doubled.

It is difficult to over-estimate the significance of pulp and paper manufacture to Canada. Amid all industry, pulp and paper stands first in employment; first in total wages paid; first in export values; first in value of production; first in capital invested. The annual output of the industry normally exceeds in value Canada's output of wheat and all other grains combined; and exceeds, too, the entire mineral output of Canada, including precious metals, base metals, iron ore, as well as coal, gas, petroleum and asbestos. Again, pulp and paper accounts for more than a fifth of all Canada's exports and about one-third of Canada's exports to the United States.

The effect of such an industry on Canadian commerce as a whole is perhaps best illustrated by its relationship with two fundamentals in the economy—power and transportation. In the first, pulp and paper accounts for a third of all the power consumed by industry in Canada; and, in so far as the railways are concerned, one of every nine revenue freight cars loaded in Canada is loaded with pulp, paper or pulpwood.

**Principal Statistics of the Pulp and Paper Industry, 1930, 1940,
1951 and 1952**

Item	1930	1940	1951	1952
Establishments.....No.	109	103	126	128
Employees....." "	33,207	34,719	57,291	57,803
Salaries and wages.....\$	45,774,976	56,073,812	213,169,906	225,353,327
Gross value of products..\$	215,674,246	298,034,843	1,237,897,470	1,157,887,657
Net value of products...\$	107,959,927	158,230,575	679,257,743	584,101,072
Pulp produced.....tons	3,619,345	5,290,762	9,314,849	8,968,009
	\$ 112,355,872	149,005,267	727,880,005	650,021,180
Paper produced.....tons	2,926,787	4,319,414	7,225,271	7,201,800
	\$ 173,305,874	225,836,809	824,029,649	838,105,108
Pulp exported.....tons	762,220	1,068,516	2,243,307	1,940,582
	\$ 39,059,979	60,930,149	365,132,884	291,863,498
Newsprint exported...tons	2,332,510	3,242,789	5,112,061	5,327,430
	\$ 133,370,932	151,360,196	536,372,498	591,790,209

Paper Production, by Province and Type, 1950-52

Province and Type	1950		1951		1952	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
Quebec—						
Newsprint.....	2,766,159	261,176,678	2,884,877	290,191,574	2,968,627	310,734,055
Book and writing..	76,517	19,935,645	84,140	24,997,828	71,534	21,764,740
Wrapping.....	122,632	20,372,400	148,849	27,428,551	130,365	25,624,071
Paper boards.....	254,367	26,361,181	297,177	33,530,407	260,671	31,034,164
Tissue paper.....	27,366	6,332,632	28,096	7,219,406	25,271	6,196,443
Other paper.....	68,590	5,569,977	68,530	6,186,727	58,725	5,309,906
Totals, Quebec..	3,315,631	339,748,513	3,511,669	389,554,493	3,515,193	400,663,379
Ontario—						
Newsprint.....	1,240,116	119,620,533	1,285,925	133,024,418	1,296,793	136,953,546
Book and writing..	137,580	27,420,765	168,941	38,792,431	153,149	35,698,881
Wrapping.....	62,661	12,069,742	66,741	15,055,396	56,533	13,751,679
Paper boards.....	417,443	42,960,135	442,490	51,424,489	408,038	47,938,021
Tissue paper.....	27,538	6,383,701	36,647	9,891,921	31,526	8,488,643
Other paper.....	18,383	2,961,129	18,491	3,729,956	17,364	3,384,944
Totals, Ontario..	1,903,721	211,416,005	2,019,235	251,918,611	1,963,403	246,215,714
British Columbia..	498,286	52,845,416	513,165	59,763,061	540,140	62,261,263
Nova Scotia, New Brunswick, Manitoba and Newfoundland...	1,094,397	106,143,892	1,181,202	122,793,484	1,183,064	128,964,752
Canada—						
Newsprint.....	5,318,988	506,968,207	5,561,115	564,361,193	5,707,030	600,515,960
Book and writing..	214,097	47,356,410	253,081	63,790,259	229,061	57,644,636
Wrapping.....	222,840	37,776,291	257,332	49,664,005	222,529	45,356,720
Paper boards.....	876,894	92,531,711	960,493	113,469,950	870,204	105,885,607
Tissue paper.....	76,742	15,885,792	89,583	21,574,730	79,974	18,620,728
Other paper.....	102,474	9,635,415	103,667	11,169,512	93,002	10,081,457
Grand Totals..	6,812,035	710,153,826	7,225,271	824,029,649	7,201,800	838,105,108

Wood-Using and Paper-Using Industries.—In 1951 the industries producing furniture, finished lumber, sash and doors, and veneers and plywoods yielded over 86 p.c. of the net value of production for the wood-using group, which amounted to \$257,412,502. The net value of production of the small group of industries producing paper boxes and bags, roofing paper and miscellaneous products such as wallpaper amounted to \$148,667,217.



Government and industry are neighbours at Ottawa—great piles of pulpwood line the river banks across from the Parliament Buildings.



The great Quebec-Labrador iron-ore project moves nearer to the production point, scheduled for the summer of 1954. The railway connecting the ore deposits with terminal, power, dock and townsite facilities at the port of Seven Islands was completed in February.

George Hunter

Mines and Minerals

A large portion of Canada is underlain by geological formations that are extremely favourable to the occurrence of economic mineral deposits, a heritage that is immeasurably valuable and one that is being exploited at an increasingly rapid rate.

Since the end of World War II, developments have taken place that have literally transformed much of the Canadian mining landscape. Perhaps the most far-reaching and spectacular development has been in the petroleum and natural gas fields of Western Canada. Since the discovery of the Leduc field in Alberta in 1947 and the Redwater field in 1948, there has been an ever-increasing tempo to exploration activity. At the end of 1952, Alberta's crude petroleum reserves were estimated at 1,526,000,000 bbl. increasing to approximately 1,800,000,000 bbl. by the end of 1953. With the increase in oil production, refining and storage capacities have been greatly expanded and the construction of pipelines for the transportation of oil to distant markets has been active. The 1,127-mile pipeline built in 1950 from Edmonton, Alta., to Superior, Wis., U.S.A., has been extended to Sarnia, Ont., an additional 635 miles. It is the longest oil pipeline in the world. In October 1953, the 718-mile Trans Mountain pipeline from Edmonton to Vancouver was put into operation to serve the Vancouver region and markets in the north-western United States. When fully developed these lines will be capable of handling upwards of 600,000 bbl. a day. In the case of natural gas, reserves have been increasing at a much higher rate than consumption and the need for new markets is apparent. Justification for the building of a gas pipeline from the Peace River area of Alberta and British Columbia to Vancouver is dependent upon the extension of the line into the United States, since the present market in Canada is not sufficiently large. Application for the extension has been made to the Federal Power Commission, Washington, D.C. Also much interest is being centred in the likelihood of bringing gas by pipeline from Alberta into Ontario and Quebec.

Equal in importance are the iron-ore developments and sharing the limelight in this field are the Steep Rock deposits in northwestern Ontario and the Quebec-Labrador deposits, both of which were discovered just before the Second World War. During 1952 and 1953, Steep Rock Iron Mines continued to carry out a large-scale expansion program, the eventual output target being 15,000,000 long tons a year. Notable headway was made on the Quebec-Labrador project in preparation for shipments expected in the summer of 1954. Also, an extensive mechanization program under way at the Wabana hematite deposits in Newfoundland will result in a substantial increase in Canada's iron-ore output. Of outstanding interest, too, is the recent discovery of huge iron-bearing deposits in northern Ungava.

Highlights of expansion in other fields include the uranium activities in northern Saskatchewan where the Crown-owned Eldorado Mining and Refining Company's property in the Beaverlodge area was put into operation in April 1953. The mill has an initial capacity of 500 tons a day. Private



Uranium, raw material for atomic power, is extracted from age-old rocks near Lake Athabasca, Sask., and Gretna, N.W.T.

Broken ore is dumped on a conveyor belt from which pieces picked at random are exposed to a cylindrical geiger counter to detect the presence of radio-active matter.

companies are also active. Developments in the nickel industry point to a considerable advance in Canada's potential output. The 144-mile railway from Sherridon, Man., to the Lynn Lake nickel-copper project of Sherritt Gordon Mines Limited was completed at the end of 1953 and construction of the Company's refinery at Fort Saskatchewan, Alta., was proceeding. The \$150,000,000 expansion program of the International Nickel Company in the Sudbury district of Ontario, involving a change-over from open-pit and underground to entirely underground operations, was nearing completion. Falconbridge Nickel, the second largest producer, was also in process of developing and modernizing its properties in the same district. The cement industry has been undergoing a plant-expansion program, which is necessitated by the greatly accelerated post-war activities in the construction industry. The program will raise Canada's cement-making capacity to approximately 25,000,000 bbl. a year. At the same time, the asbestos industry has been undergoing considerable expansion, more particularly in the Eastern Townships of Quebec. Also a new asbestos mine in the Cassiar district of northern British Columbia started production in 1953. The discovery, late in 1952, of what appears to be an important zinc-lead-silver-copper property in the Bathurst area of New Brunswick has opened up whole new possibilities in mining in a province that has hitherto had no metal production.

The mention of these primary mining developments serves only as a focal point from which to visualize the tremendous activity taking place in all fields of mineral production, an activity that is the basis of much of the recent industrial progress in Canada. In the establishment of a great variety of new industries directly and indirectly related to mining, in water-power development, in railway and road construction, in the spreading out of the population and the building up of new communities with all their attendant services, the influences of active mining operations are clearly evident.

Mineral Production in 1953.—Estimates show that mineral production in Canada during 1953 reached a new high value at \$1,331,000,000, exceeding the 1952 value by \$46,000,000. The most outstanding gain was in the

production of crude petroleum which advanced by \$55,000,000. Cement was up nearly \$12,000,000 and iron ore about \$9,000,000. On the other hand, the output value of zinc dropped \$34,000,000, gold was lower by \$13,000,000 and coal was down \$9,000,000.

The value of all metals produced in 1953 was 2.6 p.c. lower than the 1952 value. Prolonged strikes at some mines curtailed the output of gold during the second six months so that the year's output amounted to 4,061,000 oz. t. valued at \$140,000,000 compared with 4,471,000 oz. t. valued at \$153,000,000 in 1952. Nickel at \$161,000,000 had the greatest value of any individual metal. Copper production was about 2 p.c. lower than in 1952 but higher prices raised the value slightly. Zinc output rose 7 p.c. and lead gained 16.81 p.c. but price declines resulted in much lower values for these metals. Iron-ore shipments were the highest on record.

Mineral fuels were valued at \$311,000,000, an increase of 18 p.c. over 1952. Crude petroleum output increased to 81,000,000 bbl. valued at \$198,000,000 from 61,000,000 bbl. at \$143,000,000 in 1952. In 1953 crude petroleum led all other minerals in value of production, exceeding gold which had held first place for nearly 25 years. Several coal mines ceased operations and coal production dropped nearly 2,000,000 tons. Natural gas output was close to 100,000,000 cu. feet, valued at \$11,000,000.

Other non-metallic minerals were valued at \$127,000,000 and asbestos, which fell slightly in both quantity and value as compared with 1952, accounted for \$87,600,000 of that amount. The quantity of barite was nearly double the 1952 figure but most of the other non-metals, such as feldspar, fluorspar, mica, talc and salt, showed little change.

A new high was established for structural materials at \$183,000,000. Production of cement advanced from 18,500,000 bbl. to 22,600,000 bbl. and the value from \$48,100,000 to \$59,800,000.

Quantities and Values of Minerals Produced, 1952 and 1953

Mineral	1952		1953 ^p	
	Quantity	Value	Quantity	Value
METALLICS		\$		\$
Antimony..... lb.	2,330,900	601,483	1,530,000	344,290
Bismuth..... "	162,373	347,224	98,821	197,308
Cadmium..... "	948,587	2,086,891	1,315,989	2,631,978
Cobalt..... "	1,421,923	3,226,903	1,754,324	3,772,880
Copper..... "	516,075,097	146,679,040	503,224,887	150,631,485
Gold..... oz. t.	4,471,725	153,246,016	4,061,205	139,826,286
Indium..... "	404	909	6,000	13,500
Iron ore..... ton	5,271,849	33,744,311	6,501,060	42,722,000
Iron ingots..... "	32,422	1,815,007	97,682	3,776,000
Lead..... lb.	337,683,891	54,671,021	394,458,042	51,969,847
Magnesium and calcium..... "	...	4,812,368	...	4,607,633
Molybdenite..... lb.	505,964	409,831	152,521	114,390
Nickel..... "	281,117,072	151,349,438	287,931,430	160,861,368
Palladium, rhodium, iridium, etc..... oz. t.	157,407	7,559,109	161,550	7,396,897
Platinum..... "	122,317	10,916,792	134,108	12,237,355
Selenium..... lb.	242,030	786,599	356,500	1,312,600
Silver..... oz. t.	25,222,227	21,065,603	30,145,259	25,334,503
Tellurium..... lb.	6,035	10,259	16,430	28,758
Tin..... "	212,113	253,581	656,000	656,000
Titanium ore..... ton	51	459	4,658	27,566
Tungsten concentrates..... lb.	1,493,111	4,488,237	2,384,554	5,051,508
Zinc..... "	743,604,155	129,833,285	797,647,860	95,398,683
TOTALS, METALLICS.....	...	727,904,366	...	708,912,835

Quantities and Values of Minerals Produced, 1952 and 1953—concluded

Mineral	1952		1953 ^p	
	Quantity	Value	Quantity	Value
		\$		\$
FUELS				
Coal..... ton	17,579,002	111,026,149	15,760,000	102,100,000
Natural gas..... M cu. ft.	88,686,465	9,517,638	99,628,189	11,023,350
Peat..... ton	32	320	30	300
Petroleum, crude..... bbl.	61,237,322	143,038,212	81,311,531	198,111,542
TOTALS, FUELS.....	...	263,582,319	...	311,235,192
OTHER NON-METALLICS				
Arsenious oxide..... lb.	1,708,351	76,876	1,424,250	78,333
Asbestos..... ton	929,339	89,254,913	911,713	87,633,124
Barite..... "	136,002	1,521,162	248,973	2,316,474
Diatomite..... "	28	1,074	3	150
Feldspar..... "	20,267	330,635	20,564	337,716
Fluorspar..... "	82,187	2,523,408	90,078	2,657,104
Graphite..... "	2,040	255,732	3,476	361,184
Grindstone..... "	42	5,720	15	900
Gypsum..... "	3,590,783	6,538,074	3,765,763	7,487,928
Iron oxide..... "	11,487	194,922	9,297	172,037
Magnesitic dolomite, brucite.....	...	2,715,266	...	3,122,122
Mica..... lb.	2,014,941	194,106	1,856,713	171,372
Mineral water..... gal.	311,495	166,033	312,400	166,450
Nepheline syenite..... ton	82,681	1,111,950	108,000	1,402,000
Peat moss..... "	74,899	2,443,765	84,847	2,497,219
Phosphate rock..... "	...	1,100	...	10,000
Quartz..... "	1,783,081	2,253,500	1,651,791	1,608,195
Salt..... "	971,903	7,774,815	946,650	7,356,595
Silica brick..... M	3,544	606,394	4,155	735,695
Soapstone and talc..... ton	25,032	280,612	26,863	294,250
Sodium sulphate..... "	122,590	1,708,807	112,881	1,704,313
Sulphur..... "	423,788	3,851,183	333,873	3,127,464
Titanium dioxide..... "	30,805	1,238,103	98,660	4,217,000
TOTALS, OTHER NON-METALLICS..	...	125,047,050	...	127,457,625
STRUCTURAL MATERIALS				
Clay products.....	...	24,961,528	...	29,220,283
Cement..... bbl.	18,520,538	48,059,470	22,577,141	59,839,705
Lime..... ton	1,175,786	13,613,221	1,184,963	13,457,648
Sand and gravel..... "	102,895,545	51,339,043	101,399,474	50,800,061
Stone..... "	18,726,196	30,835,356	19,548,262	30,288,154
TOTALS, STRUCTURAL MATERIALS.	...	168,808,618	...	183,605,851
Grand Totals.....	...	1,285,342,353	...	1,331,211,503

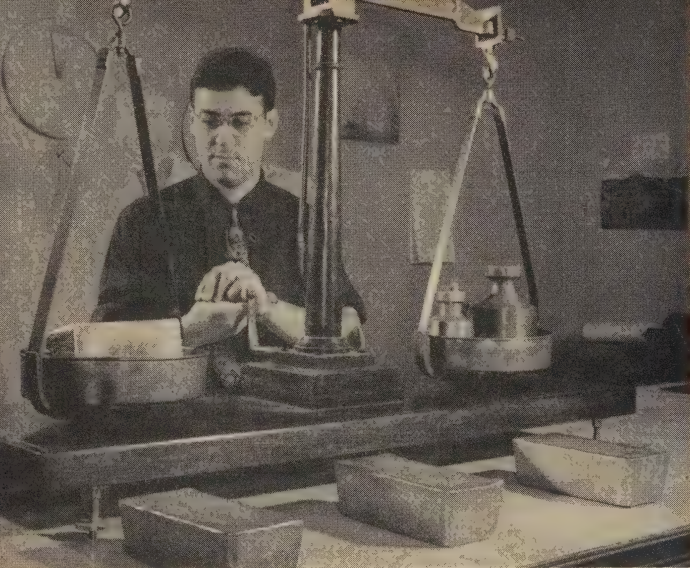
Provincial Distribution of Production.—In 1952, *Newfoundland* accounted for 2.5 p.c. of the total mineral output for Canada. Production, in order of value, comprised mainly zinc, iron ore, lead, fluorspar and copper, together with small amounts of silver and gold, sand and gravel, stone, cement and gypsum. Over 98 p.c. of the total Canadian output of fluorspar comes from *Newfoundland*. Exploratory and development activity continued at a high level during 1952 and 1953. Coal forms the core of the mineral industry in *Nova Scotia* and in 1952 accounted for almost 80 p.c. of the total value of the Province's output. Industrial minerals—particularly gypsum and barite, of which *Nova Scotia* is the leading Canadian producer, and salt—accounted for the bulk of the remaining output. In 1952 a new base-metal mine shipped concentrates containing copper, lead, zinc, silver and gold. Mining has always been a lesser



Cement plant at Exshaw, Alta. A program of plant expansion in the cement industry, necessitated by greatly accelerated construction activities since the end of the War, will raise Canada's cement-making capacity to approximately 25,000,000 bbl. a year.

industry of *New Brunswick*, production consisting of coal, natural gas, crude petroleum and structural materials. A new cement plant added to the output of the latter item in 1952. However, the discovery late in 1952 of what appears to be an important zinc-lead-silver-copper property in the northeastern part of the Province may change the mining picture for New Brunswick.

Quebec is Canada's second largest mineral-producing province. New developments in the iron-ore industry, in copper and in zinc, together with exploratory achievements in the Chibougamau and Ungava districts, give promise of a steadily increasing output. In 1952, the value of production increased by 5.8 p.c. over 1951, outstanding gains being made by asbestos, cement, lead, sulphur and titanium dioxide. The volume of output of zinc, gold and silver increased considerably in each case but, because of price declines, output values were lower than in 1951. Asbestos accounted for almost 32 p.c. of the total value of Quebec's mineral output in 1952. *Ontario* is Canada's leading mineral-producing province, accounting in 1952 for 34.6 p.c. of the value of the Canadian output. Nickel, gold and copper, in that order, were the chief contributors, followed by sand and gravel, iron ore, the platinum metals, cement, clay products, lime, silver, salt and asbestos. Ontario produced all of the Canadian output of nickel in 1952, all of the platinum



Gold mining in the Northwest Territories is centred in the rich Yellowknife area where Canada's fifth largest producer operates. Here gold bullion from Yellowknife mines is being weighed before shipment by air to the Royal Canadian Mint at Ottawa.

metals, cobalt, nepheline syenite and graphite, and most of the salt. The Province also accounted for over half of the Canadian output of iron ore and of gold and nearly half of the copper. Development and exploratory work throughout the Province is very active.

The copper-gold-zinc mine at Flin Flon on the Manitoba-Saskatchewan border is the present source of the greater part of *Manitoba's* mineral output, which amounted to only 2 p.c. of the Canadian total in 1952. The Province's output of industrial minerals, including structural materials, comprised cement, sand and gravel, stone, lime, clay products, gypsum and salt, in that order. Most of the interest in mineral development in Manitoba is centred in the Lynn Lake area where, late in 1953, Sherritt Gordon Mines placed its copper-nickel orebodies in production. In *Saskatchewan*, developments in crude oil, natural gas and uranium have been most significant. However, at present, production in that Province comes mainly from the Flin Flon mine. Saskatchewan accounted for over 11 p.c. of Canada's volume of coal output in 1952, and the Province's production of non-metallics comprised sand and gravel, sodium sulphate, salt and clay products, in that order. In *Alberta*, almost 74 p.c. of the total value of mineral production was accounted for by crude petroleum and natural gas; the Province produced more than 96 p.c. and 89 p.c., respectively, of the Canadian output of those products. Alberta is also Canada's principal coal-producing province, contributing 41 p.c. of the Canadian total in 1952. Alberta possesses a steadily expanding clay-products industry and produces considerable quantities of other structural materials and salt. Sulphur was produced there for the first time in 1951.

In *British Columbia*, lead, zinc, copper, gold, coal, silver and iron ore make up the bulk of the mineral output. The Province contributed almost 20 p.c. of the total metal production of Canada and is credited with the major portion of antimony, bismuth, cadmium, indium, lead, silver, tin, tungsten and zinc production. British Columbia entered the asbestos-production field with the opening of the McDame property in mid-1953. The opening up of the Kitimat-Kemano district to industry and settlement is focussing increasing

attention on the mineral potential of that whole region. Also the discovery of extensive reserves of natural gas in the Peace River area is of outstanding importance. Mineral production in *Yukon Territory* comprises silver, lead, zinc and cadmium from the Mayo district, gold from placer operations mainly in the Dawson region and coal from the Carmacks area. The discovery of nickel in the Kluane Lake area has increased interest in the Territory's mineral potential. Gold, uranium ore and crude petroleum are the principal minerals produced in the *Northwest Territories*; small amounts of silver and copper are also mined.

Mineral Production, by Province, 1951-53

Province or Territory	1951		1952		1953 ^p	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$		\$		\$	
Newfoundland.....	32,410,443	2.6	32,512,313	2.5	33,688,389	2.5
Nova Scotia.....	59,727,256	4.8	64,552,383	5.0	67,100,707	5.0
New Brunswick.....	9,564,617	0.8	11,298,960	0.9	11,732,174	0.9
Quebec.....	255,530,071	20.5	270,483,962	21.0	252,826,012	19.0
Ontario.....	444,667,203	35.7	444,669,412	34.6	460,476,113	34.6
Manitoba.....	30,045,992	2.4	25,105,045	2.0	25,671,957	1.9
Saskatchewan.....	51,032,953	4.1	49,506,094	3.9	48,136,364	3.6
Alberta.....	168,144,211	13.5	196,811,654	15.3	245,954,755	18.5
British Columbia....	176,278,932	14.1	170,071,244	13.2	160,741,387	12.1
Yukon Territory.....	9,793,170	0.8	11,386,451	0.9	14,362,607	1.1
Northwest Territories	8,288,747	0.7	8,944,835	0.7	10,521,038	0.8
Totals ¹	1,245,483,595	100.0	1,285,342,353	100.0	1,331,211,503	100.0

¹ Excluding pitchblende products.

Black Lake is one of the leading asbestos-mining communities of the Eastern Townships, Que., the district which is the source of more than 97 p.c. of the Canadian output of asbestos.





Fisheries

CANADA'S commercial fisheries represent a great natural resource which has been yielding annually an ever-increasing harvest of protein food since the time of John Cabot. Cod and lobster from Atlantic waters, whitefish and lake trout from inland lakes and salmon and halibut from Pacific waters are among the more important species that have made Canada a leading fish-producing nation. The annual catch is close to 2,000,000,000 lb. and the production value, which rose sharply during World War II, now stands at about \$180,000,000. While this figure is not large compared with the value of output of other industries in Canada, the landing and processing operations that it represents are of great importance to the social and economic life of thousands of communities in the coastal areas. There are some 86,000 fishermen employed in primary fishing operations while many additional thousands obtain work in the processing plants and allied industries ashore.

Canadians do not yet take full advantage of this readily available source of protein food and eat only about 14 lb. per capita annually. Canada's relatively small population thus absorbs only about one-third of the fish products derived from the annual catch. The remainder is sold on markets abroad, the United States being one of the industry's best customers. Thus, Canada is one of the world's leading exporters of fish, the value of the exports now amounting to about \$115,000,000 annually.

Since the fisheries of Canada are those of a continent rather than a country, they are varied and complex. The Atlantic industry differs greatly from the Pacific operation while the fresh-water industry of the Great Lakes and the Prairie Provinces is distinct from the other two. While the potential of Canada's fisheries is still unknown, it is recognized that stocks of fish are not inexhaustible, regardless of how rich the fishing grounds may be. Certain species, such as the salmon and lobster, are more in demand than others and are therefore fished more intensively. As a result, there is always danger that they may be depleted in numbers to the point where it is no longer profitable to fish for them. Fishing fleets are becoming more and more efficient both in their ability to locate fish and in their means of large-scale capture. Echo sounders and radar, as well as knowledge gained from pure biological research, have helped the fishermen to locate with great accuracy the haunts of their unseen quarry.

The policy of the Federal Department of Fisheries is to frame and administer wise management policies, to allow extensive exploitation of known fish populations while assuring their maintenance for the future through protection measures and fish cultural programs. Protection regulations include close seasons, restricted areas and limitations on gear, all laws being based on experience, observation and scientific investigation. At the same time, other programs are conducted to produce larger stocks of fish through improvement of environment and fish-stocking procedures.

Conservation measures for the preservation of Canada's most important fisheries could not be carried out successfully without international



Hauling net aboard a gill-netter in the Fraser River, B.C. In the summer of 1953, the sockeye salmon returned in force to the Fraser where it had not appeared since 1913. The late run was the first major reward for many years of rehabilitation efforts put forth by the International Pacific Salmon Fisheries Commission.

co-operation. Canada and the United States have long been parties to several treaties covering both coasts and, more recently, treaties have also brought in other countries whose nationals are interested in fishing in this hemisphere. For some years, two international commissions formed of Canadian and United States members have operated on the Pacific Coast to manage the north Pacific halibut stocks and the sockeye salmon runs of the Fraser River. Both these fisheries, in a serious state of decline at one time, now have recovered and are yielding record catches as a result of the operations of these international bodies. New implementing legislation on the Pacific Halibut Convention was passed by Parliament in 1953, giving additional regulatory powers to the International Pacific Halibut Commission. Approval was also given by Parliament in 1953 to the treaty Canada has with Japan and the United States, aimed at providing the maximum sustained yield of the fishery resources of the northern Pacific non-territorial waters. Canada is a signatory, along with nine other countries, to the International Commission for the Northwest Atlantic Fisheries. The Commission has formulated its program and has established its headquarters at Halifax, N.S. It is hoped to extend this international coverage to include the Great Lakes. Negotiations with the United States for a Great Lakes treaty commenced during the year and, pending government agreement, an interim working arrangement was reached with the Ontario Government to begin a research program on the Canadian side of the Great Lakes and to introduce control measures in connection with the lamprey predator.

As already mentioned, there have been recent marked improvements in methods of fishing and in finding of new fishery resources as well as progress in the processing and marketing of fish products. Scientific investigations leading to these improvements are carried out by the Fisheries Research Board of Canada. The Board's experiments, for example, have brought about better cold-storage facilities and means of transportation and packaging, with the result that a better product is reaching the consumer. The composition of the

Board was changed in 1953 to provide for the appointment of a permanent chairman and a more flexible method of representation of scientists and members of the industry in all provinces of Canada. The purpose of the reorganization was to increase the effectiveness of this most important service, particularly in the application of Board findings to fishery management by the Department and to improvements in the processing and handling of fish by the fishing industry.

Of the advances made in methods of catching, processing, marketing and transportation, possibly the most significant are those that have developed the fresh and frozen fillet industry to a high peak of efficiency. This is particularly noticeable in the Maritime Provinces and Newfoundland, where traditional methods of drying cod for overseas markets are being replaced to a considerable extent by new processes carried out in modern plants.

Grading lobsters at a packing plant, Magdalen Islands, Que.



Setting baited traps used in the lobster fishery around the coasts of the Maritime Provinces and in the Gulf of St. Lawrence—the greatest lobster fishing grounds in the world.





Reeling nets on the shores of Lake Winnipeg, Man. More than 6,500 persons find full-time or part-time employment in commercial fishing in Manitoba and probably as many more are employed in associated industries.

Statistics of Fisheries Production

In Canada (exclusive of Newfoundland), 65,000 fishermen landed 1,453,000,000 lb. of fish in 1951, almost the same amount as in the previous year. The total marketed value of all the products of the fishery industry, however, was about \$175,894,000, an increase of almost 16 p.c. over the value for 1950. The most significant increase occurred in British Columbia where the marketed value rose by 24 p.c. to \$85,397,000. No detailed statistics are available for Newfoundland but it is estimated that 612,000,000 lb. of fish were landed in 1951 with a marketed value of about \$29,000,000. Thus the total landings for the year were in the neighbourhood of 2,065,000,000 lb.

Trends in Landings, Values of Production and Equipment, and Numbers Employed in the Fishery Industry, 1899-1951

(Exclusive of Newfoundland)

Year	Quantity Landed	Value of Production	Value of Equipment	Employees in—	
				Fishing	Fish Processing
	'000 lb.	\$'000	\$'000	No.	No.
Average 1899-1908.....	..	24,447	..	77,282	14,070
1909.....	..	29,629	..	68,663	21,694
1914.....	..	31,265	..	69,954	24,559
Average 1909-18.....	..	37,976	..	69,540	24,094
1919.....	930,632	56,508	31,376	67,804	18,356
1924.....	913,757	44,534	23,543	53,914	15,526
Average 1919-28.....	953,496	47,806	27,813	59,139	16,432
1929.....	1,150,085	53,519	33,935	64,083	16,367
1934.....	933,087	34,022	26,213	68,634	14,802
Average 1929-38.....	995,450	37,239	27,672	67,014	14,586
1939.....	1,063,774	40,076	25,843	68,941	14,814
1944.....	1,179,146	89,440	35,057	64,208	17,272
Average 1939-48.....	1,240,570	89,625	38,911	66,130	16,661
1949.....	1,319,958	132,306	69,543	64,613	16,087
1950.....	1,491,225	152,063	80,118	65,037	14,861
1951.....	1,452,945	175,894	92,427	65,188	16,107

Estimates for 1952 show landings of about 800,000,000 lb. in the Maritime Provinces and Quebec and of approximately 600,000,000 lb. in Newfoundland. Strikes and suspended operations reduced the British Columbia catch to 400,000,000 lb. from a normal catch of about 600,000,000 lb. Some 100,000,000 lb. from fresh-water operations brought the total 1952 catch to about 1,900,000,000 lb.

Quantities Landed and Values of All Products Marketed, of the Chief Commercial Fishes, by Province, 1950 and 1951

(Exclusive of Newfoundland)

Province or Territory	Kind of Fish	1950		1951	
		Quantity Landed	Value of Products	Quantity Landed	Value of Products
		'000 lb.	\$'000	'000 lb.	\$'000
Prince Edward Island....	Lobsters.....	9,098	2,240	8,342	2,227
	Cod.....	4,343	213	4,395	227
	Smelts.....	1,139	185	849	152
Nova Scotia.....	Cod.....	161,411	12,450	147,746	12,420
	Lobsters.....	21,978	7,778	24,278	8,281
	Haddock.....	46,213	4,140	53,355	4,936
New Brunswick.....	Lobsters.....	11,332	5,475	10,565	6,360
	Sardines.....	67,489	4,939	62,503	5,604
	Herring.....	77,726	2,253	62,466	2,720
Quebec.....	Cod.....	61,443	2,763	49,844	2,452
	Lobsters.....	2,278	700	2,388	701
	Herring.....	39,821	497	32,739	527
Ontario.....	Whitefish.....	6,589	2,163	7,180	2,780
	Pickarel.....	3,510	896	4,025	1,181
	Blue Pickarel.....	8,665	1,559	4,102	919
Manitoba.....	Pickarel.....	9,136	2,605	11,208	3,227
	Whitefish.....	6,217	1,999	6,125	1,828
	Saugers.....	5,121	1,161	4,319	1,008
Saskatchewan.....	Whitefish.....	4,389	799	5,852	987
	Trout.....	987	218	1,587	277
	Pickarel.....	871	155	1,334	266
Alberta.....	Whitefish.....	2,411	524	2,703	572
	Tullibee.....	3,673	165	4,618	184
	Pike.....	388	35	492	57
British Columbia.....	Salmon.....	184,700	48,702	197,594	60,750
	Herring.....	397,566	9,313	365,432	10,640
	Halibut.....	18,882	5,552	20,214	5,762
Northwest Territories....	Whitefish.....	5,071	1,561	4,580	1,457
	Trout.....	2,442	662	2,623	754
Totals.....	Salmon.....	186,944	49,929	199,396	61,719
	Lobsters.....	44,685	16,193	45,573	17,569
	Cod.....	255,729	17,242	232,439	17,463

e income of many
shore fisherfolk on
the East Coast is aug-
mented by the sale of
ish moss, which is
used in the manufac-
ture of ice cream,
chocolate milk, jellies,
etc.





Unloading halibut at a fishermen's co-operative in British Columbia. Fishermen on both coasts and some inland lakes are organized for the marketing of fish and for the purchasing of fishermen's supplies and consumer goods.

Landings and Values of All Fishery Products, by Province, 1949-51

Province or Territory	Quantities Landed			Values of Products		
	1949	1950	1951	1949	1950	1951
	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000
Prince Edward Island	27,525	29,225	27,224	2,704	3,321	3,213
Nova Scotia.....	364,332	378,485	381,904	35,040	38,121	40,296
New Brunswick.....	189,235	239,671	227,038	17,428	18,053	21,155
Quebec.....	106,113	117,459	102,119	5,752	5,496	5,511
Ontario.....	34,061	32,755	30,969	6,184	7,034	7,925
Manitoba.....	29,503	31,468	35,457	4,992	6,791	7,524
Saskatchewan.....	7,473	8,731	11,512	1,026	1,360	1,749
Alberta.....	6,302	7,067	8,399	563	768	862
British Columbia....	546,313	638,497	620,846	56,456	68,821	85,397
Northwest Territories.....	9,101	7,867	7,477	2,161	2,298	2,262
Totals.....	1,319,958	1,491,225	1,452,945	132,306	152,063	175,894

Principal Statistics of the Fish-Processing Industry, 1942-51

Year	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials Used	Selling Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
1942.....	493	15,717	8,391	761	37,746	59,441
1943.....	523	15,899	10,040	850	43,367	64,805
1944.....	535	17,272	11,071	910	45,907	68,883
1945.....	540	17,501	11,967	974	62,064	93,545
1946.....	586	19,396	13,800	1,104	68,013	100,124
1947.....	594	16,458	15,861	1,411	62,780	105,206
1948.....	600	16,497	17,041	1,782	74,588	115,821
1949.....	599	16,087	16,970	1,731	69,090	111,919
1950.....	591	14,861	18,722	1,773	79,959	128,424
1951 ¹	639	18,706	24,744	2,724	101,621	163,010

¹ Includes Newfoundland.

at fishin' in the
Federal Fisheries
Research Board
hatchery pond at
Southport, P.E.I.,
where the open-
season is five days
long.



The value of the equipment used in primary operations of the commercial fisheries in 1951 amounted to \$92,427,000. Of that amount, investment in vessels of all kinds constituted 65 p.c., in nets, traps, lines and other gear, 30 p.c., and in premises such as piers, wharves, freezers, icehouses, smoke-houses, etc., 5 p.c. Of the total investment in the agencies of primary production, 48 p.c. was employed on the West Coast, 38 p.c. on the East Coast and 14 p.c. in the fresh-water fisheries.

anned salmon is main-
ly a West Coast pro-
duct. The British Col-
umbia pack, which
varies considerably
from year to year
according to landings,
was almost 1,300,000
cases in 1952 valued
at \$28,500,000.





Iron and steel products, manufactured in Canada in some 2,340 plants, provide employment for more than 165,000 workers.

Manufactures

THE extent to which a country has been able to develop its manufacturing capacity is being taken by many people, rightly or wrongly, to be a measure of economic progress. A high rate of industrial development has, indeed, become the principal aim of most nations. This ambition is founded mainly on the belief that, as the emphasis in a nation's economic activity shifts from purely extractive pursuits through raw-material processing to the manufacture of end products, two things at least are bound to happen: one is greater economic stability in time of peace; the other is greater defence potential in time of war. Often, the attainment of a higher standard of living is also taken for granted.

Many Canadians, at least, have come to think in these terms. If results are any criterion they have good reason to do so. Based on any measure, theirs is a record of exceptional achievement. It is one that would do credit to a much older and industrially more experienced nation. Yet much of this has been achieved without any serious dislocation, industrially or regionally, of the Canadian economy. No wonder Canada's progress as a young manufacturing nation is one that is stirring the imagination of people everywhere, especially those living in what are commonly referred to as other potentially rich and as yet under-developed parts of the world.

As a manufacturing nation, Canada has come a long way in recent years. So far, in fact, that it already can be regarded as a highly industrialized country. To-day nearly one-third of Canada's national income comes from manufacturing. This is more than twice the income from agriculture and five times the return from logging, mining and fishing combined. Now, one out of every four working Canadians is engaged in one manufacturing activity or another. Surprisingly enough, these ratios are not far different from those of the United States*—a country which almost everyone assumes is in the forefront of industrial progress.

In terms of output per man-hour, Canadians are gaining on and, in certain industries, even outstripping their neighbours to the south. In this they have been aided by an abundance of raw material and energy resources and by a high level of capital investment in new manufacturing plant and equipment. Of assistance, too, have been the new manufacturing techniques and industrial processes introduced by the hundreds in new industries that have sprung up or become better established in Canada over the past few decades.

All this promises new records in employment and output for the future. But even more interesting are the long-term shifts that are likely to take place between different industries. Whether or not these will mean a further strengthening of the Canadian economy can best be judged against the background of Canadian manufacturing since 1900.

* In June 1953, 26 p.c. of all employed persons in Canada were working in manufacturing establishments, compared with 26 p.c. in the United States, 39 p.c. in the United Kingdom and 22 p.c. in Australia.

General Background.—The growth curve of Canadian manufacturing has been by no means a uniform one. Through the years it has shown some rather impressive humps and hollows. Two world wars and, after 1950, the outbreak of hostilities in Korea have been largely responsible for its intermittent progress. So, to a lesser extent, have been the home market and export sales booms of the 1920's and late 1940's. Each in turn has resulted in the creation of new manufacturing facilities including the re-opening of plants which sometimes have lain idle for years. Witness the fact that in 1953 employment in Canada's 38,000 manufacturing plants has reached an all-time high of 1,327,000 persons, a figure that exceeds the sharp World War II peak (1943) employment of 1,241,000 by a comfortable margin.

Using employment as a yardstick, Canada's manufacturing industries have increased more than five-fold since the turn of the century. If we ignore the fact that many plants were running at less than capacity in the late 1930's, manufacturing employment has almost doubled since 1939. This is an over-all rate that compares very favourably with the rate of population growth.

Employment in Manufactures and Total Employment, 1901-53

SOURCES: Employment for 1901 and 1911 are estimates based on Census data. Employment for subsequent years to 1953 are from DBS Census of Industry reports and labour force estimates.

Year	Manu- facturing	Total Employ- ment	Manu- facturing to Total	Year	Manu- facturing	Total Employ- ment	Manu- facturing to Total
	'000	'000	p.c.		'000	'000	p.c.
1901....	236	1,758	13.4	1944.....	1,223	4,445	27.5
1911....	360	2,685	13.4	1948.....	1,156	4,852	23.8
1921....	439	3,129	14.0	1951 ¹	1,258	5,123	24.6
1931....	529	3,630	14.6	1952 ¹	1,273	5,174	24.6
1941....	961	4,224	22.8	1953 ^{1,2} ..	1,327	5,201	25.5

¹ Includes Newfoundland.

² Estimate.

The above figures, though they are indicative of some of the broader trends in Canadian manufacturing, conceal a number of other and equally fundamental changes that have been taking place. During the past fifty years, Canadian industry has been swept along on the crest of a great technological revolution. It is one that has helped to wipe out entire industries and yet has created new ones to take their places. It is one that has helped large firms to grow larger and, at the same time, caused small firms not only to become more numerous but also to become much more closely integrated with other and larger concerns scattered across the country.

Long gone is the day when a handyman, with a few tools and little outside help, could earn his living making a variety of goods. Gone, too, is the day when literally hundreds of small or medium-sized multi-purpose plants could switch their output from one product to another almost overnight and still make a profit. Now specialization is the rule. Dozens of new products are continually being introduced as a result of industrial research. More often than not they can be made only in specially designed plants using specially adapted processes. Here, through applied science, is the main dynamic, moulding or sometimes even wiping out entire industries by creating others to replace them. Here, and with growing emphasis, is the fountainhead of new



nylon intermediates plant at Maitland, Ont., on the main Montreal-Toronto highway, by the St. Lawrence River. The complicated operation at this plant takes basic raw materials and converts them into nylon chemicals from which nylon staple fibre and filament yarn are made.

One of the control rooms where three operators supervise the working of more than 1,000 instruments.



investment—the price not only of doing business but of staying in business—a cost that is going up year by year as more and more synthetic products and other substitutes push their way into markets formerly supplied by the older and better-known products of manufacturing.

A greater degree of specialization has had other far-reaching ramifications. It has resulted in greater interdependence between industries. Reaching beyond local boundaries, it has had much the same effect inter-regionally and internationally. As a result, many of Canada's manufacturing industries no longer draw on purely local sources and sell entirely to local markets. Now

they have a much greater tendency to rely on distant sources of supply and to sell their products on a nation-wide or even a world-wide basis.

Among other things, specialization has broadened the avenues of competition. But it has done even more. It has had a great effect on Canada's external trade in manufactured goods. Imports are becoming much more heavily weighted with industrial raw materials and partially processed goods. A rising tide of semi-fabricated metals, industrial chemicals and component parts bear testimony to this fact. Canada's export trade has also been changing, though for somewhat different reasons. The accent here has been on the sale abroad of partially manufactured goods, rather than raw materials. This is because on-site processing has made economic good sense, particularly in the case of the ferro-alloying elements, copper, the base metals, and pulp and paper.

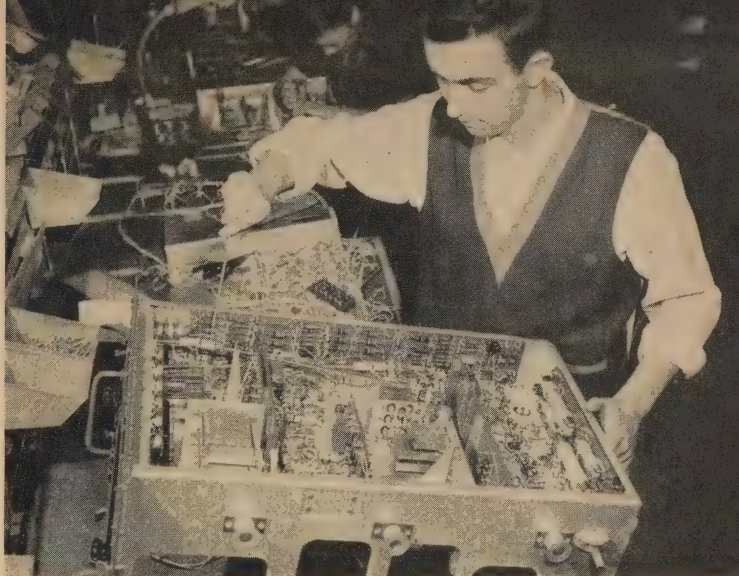
This initial processing of many of Canada's export staples is helping the Canadian economy in other ways. Not only has it created greater employment opportunities, but it has frequently resulted in by-products—yet another source of industrial raw materials—many of which would otherwise have had to be imported at greater expense to Canada's secondary industries. Moreover, without these by-products Canada's fertilizer industry would never have fared as well in the face of world competition. A cheap source of sulphur mainly for use in Canada's largest single industry, the manufacture of paper, would never have been developed. Also petrochemical production would have been limited to the surplus products of oil refineries in the nation's major centres of consumption. Initial processing with all its ramifications—by-products and otherwise—is therefore helping to forge innumerable links between the nation's industries. It is helping, in other words, to integrate better Canada's manufacturing economy.

From one period to another, though, the emphasis has been changing. Sometimes it has been on exports and sometimes it has been directed more towards the domestic market. Sometimes it has favoured the primary processing industries and sometimes it has shifted over towards secondary manufacturing. This is not to deny that investment and employment in these two broad industrial groups have shown strong tendencies to go up and down together. Rather, it is to suggest that in certain periods the principal demand factors influencing Canada's industrial development have stemmed more from foreign trade considerations; in others they have been much more closely related to the changing requirements of Canada's internal economy.

The emphasis on primary manufacturing was more important in the years immediately prior to World War I, throughout the 1920's and again in the early 1950's. Secondary manufacturing, which also made large gains, has followed a more consistent growth pattern. By holding much of the ground that it gained during two world wars, and aided by increased tariff protection in the 1930's and a U.S. dollar shortage in the late 1940's, it has managed to more than hold its own with the earlier stages of manufacturing.

But let us be a little more definitive. Which manufactures are the growth industries? Which of Canada's industries are barely holding their own? And which types of industrial activity are on the decline? The answers to these questions are of considerable interest, especially since they help to shed some light on the shape of things to come. The following table is useful in this respect.

Putting the finishing touches on a piece of radar equipment. Employees undergo a comprehensive training program before undertaking the assembly of radar units.



Percentage Distribution of Employment in Manufacturing Industries, 1921-52

Industry	1921-25	1926-30	1931-35	1936-40	1941-45	1946-50	1951	1952
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Food and beverages.....	18.8	17.4	19.0	18.1	13.6	15.7	14.5	14.2
Rubber products.....	2.2	2.6	2.1	2.0	1.6	1.9	1.8	1.7
Leather products.....	4.0	3.5	4.3	4.0	2.9	3.1	2.5	2.5
Primary textiles.....	6.2	5.6	7.1	6.6	4.7	6.2	6.5	5.5
Clothing.....	10.6	10.5	12.4	11.9	9.2	10.2	9.2	9.1
Wood products.....	13.0	12.7	9.3	8.5	8.0	10.6	10.4	10.2
Paper products.....	7.1	6.8	6.8	6.6	4.9	6.5	6.6	6.5
Printing and publishing...	5.6	5.4	6.5	5.6	3.6	4.8	5.1	5.0
Iron and steel products...	11.6	12.2	10.2	11.6	15.9	14.4	14.6	14.9
Transportation equipment.	5.8	7.5	6.9	7.7	15.5	8.9	9.7	11.2
Non-ferrous metal products	2.8	2.8	3.0	3.6	4.5	3.9	4.0	4.0
Electrical apparatus.....	2.5	3.0	2.9	3.1	3.7	4.7	5.4	5.4
Non-metallic mineral products.....	3.0	3.0	2.2	2.2	1.8	2.4	2.5	2.5
Products of petroleum and coal.....	1.5	1.4	1.7	1.4	0.9	1.2	1.2	1.3
Chemical products.....	2.8	2.5	3.2	3.4	6.7	3.5	3.6	3.7
Miscellaneous.....	2.5	3.1	2.4	3.7	2.5	2.0	2.4	2.3
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Since World War I the electrical apparatus industry has increased its relative importance in manufacturing more than any other industry. As a source of employment it has increased six times since the first half of the 1920's, raising its relative importance in the manufacturing group from 2.5 p.c. to well over 5 p.c. Non-ferrous metal smelting, refining and fabrication has similarly improved its relative position in manufacturing. Employment in this sector of manufacturing has increased four times since the early 1920's. Now it accounts for 4 p.c. of manufacturing employment compared with less than 3 p.c. at the earlier date. Transportation equipment has increased five times during this period, with its relative importance advancing from about 6 p.c. to over 11 p.c. of total manufacturing employment. Most of



Dairymen removing freshly churned butter from 1,000-lb. churn in a rural creamery. The butter placed in 90-lb. boxes where it will be marketed into one-pound prints.

this increase has occurred in the motor-vehicles, aircraft and shipbuilding sectors. Although employment in iron and steel firms trebled during this 30-year period, the relative position of this industry in manufacturing has increased only slightly, from just under 12 p.c. to almost 15 p.c.

Chemical plants and those producing industrial, farm and household machinery have shown modest yet positive relative gains in the manufacturing picture, while firms like those engaged in making paper products and products of petroleum and coal have just about held their own with manufacturing as a whole. Here labour-saving devices have been of even greater significance, the net result being that their employment effects are by no means indicative of the rapid rise that has taken place in the value and physical volume of their production.

Firms in other industries, while still showing substantial growth since the period of the early 1920's, have come to represent a smaller proportion of manufacturing employment. This is particularly true of establishments making food and beverages, those turning out "soft" goods like textiles, clothing and home furnishings, and those making rubber and leather products. It is apparent, then, that as manufacturing in this country has developed over the years more emphasis has been placed on the production of capital and other "hard" goods rather than on "soft" goods for immediate personal consumption.

Current Trends.—A good indication of the growth of Canada's manufacturing industries in recent years is provided by the Canadian Government's official estimates of new capital investment. Expressed in constant dollar terms, they give some idea of the volume of new plant and equipment that has been put in place since 1945.

The following series, which includes Government capital assistance, outlines some of the year-by-year changes that have been taking place since the end of World War II. The figures are deflated to 1950 values.

Capital Investment in Millions of Constant (1950) Dollars, 1946-53

Type of Plant	1946	1947	1948	1949	1950	1951	1952	1953	Total 1946-53	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	p.c.
Food processing.....	83.6	96.2	94.8	82.8	75.2	72.8	61.8	66.4	633.6	12.0
Primary textiles.....	37.3	42.1	38.2	33.0	27.4	36.0	34.1	33.8	281.9	5.4
Pulp and paper.....	78.4	112.7	96.0	83.7	78.5	115.4	111.7	94.8	771.2	14.7
Sawmills, etc. ¹	48.1	42.1	28.3	27.4	29.4	35.5	25.5	20.1	256.4	4.9
Primary steel.....	11.2	18.2	19.1	10.3	8.0	23.0	72.8	50.0	212.6	4.0
Non-ferrous metals ² ...	10.0	27.2	27.6	29.7	27.3	44.6	51.6	70.6	288.6	5.5
Motor-vehicles.....	13.7	10.8	10.9	11.7	17.4	32.9	35.9	46.6	179.9	3.4
Aircraft.....	2.1	0.7	0.8	6.5	6.8	22.6	41.2	35.3	116.0	2.2
Transportation equip- ment.....	9.3	12.1	5.3	9.5	7.1	7.0	9.9	9.2	69.4	1.3
Electrical apparatus...	17.1	16.9	17.9	17.0	13.7	35.8	39.0	33.3	190.7	3.6
Other machinery.....	62.4	50.4	38.9	43.4	36.2	66.5	55.7	55.8	409.3	7.8
Oil refining.....	9.3	31.1	45.8	28.5	32.8	54.3	65.0	66.7	333.5	6.3
Cement and brick ³	0.8	60.4	30.1	20.2	16.4	28.0	29.7	19.7	205.3	3.9
Chemicals.....	26.6	48.1	45.0	38.8	26.3	61.8	109.1	84.7	440.4	8.4
Printing.....	18.7	16.7	20.8	20.6	19.4	22.4	12.2	19.2	150.0	2.8
All other.....	50.0	66.8	110.7	92.0	84.1	100.7	99.3	121.1	724.7	13.8
Totals.										
Manufacturing—										
Constant (1950)										
Dollars.....	478.6	652.5	630.2	555.1	506.0	759.3	854.5	827.3	5,263.5	100.0
Current Year										
Dollars.....	300.0	539.0	587.3	541.1	506.0	824.7	1,005.0	1,006.0	5,309.1	100.0

¹Includes planing and plywood mills and miscellaneous wood-working factories.
²Smelting, refining and the semi-fabrication of non-ferrous metals.
³Includes cement and brick products such as blocks, tile, pipe, etc.

Viewed in relation to current employment in the various industries, these investment estimates make interesting reading. Much more money, for instance, has been invested in petroleum refineries, pulp and paper mills and chemical plants than their increase in employment would indicate. This is because, in planning most of these new facilities, greater advantage has

nickel containing stain-
less steel pouring
from a new electric
furnace in a Van-
couver plant. The
furnace has a rated
melting capacity of
3,500 lb. and will as-
sist in meeting the re-
quirements of West-
ern Canada's ex-
panded oil, paper,
chemical and mining
industries for corro-
sion-resistant castings.



been taken of the economies of large-scale production as well as of new and sometimes radically improved manufacturing techniques. At the same time, money invested per employee has been much lower in older industries such as the manufacture of wooden building materials, furniture, primary and secondary textiles, leather footwear and the printing and publishing trades.

To most people, capital expenditures measured in hundreds or perhaps in thousands of millions of dollars have little meaning. It is even more confused to be told that these dollar figures also take into account extensions as well as plant modernization programs. To them, the numbers of new factories or new employment opportunities are something much more concrete. What, in these terms, has been the post-World-War-II story, in so far as this phase of Canada's industrial development is concerned? In the eight-year period from the beginning of 1946 to the end of 1953, some 2,269 entirely new large and medium sized* manufacturing concerns began operations in Canada. Building and equipping these new facilities has cost approximately \$2,000,000,000. They alone provide employment for over 128,000 Canadians.

The contribution of these new plants to the Canadian economy can best be measured in relation to manufacturing as a whole. Their establishment, either as entirely new firms or as branch plants of existing firms, has accounted during the post-World-War-II period for over one-quarter of the total capital invested in new buildings and machinery and equipment falling under the category of manufacturing. This is by no means all. These new plants have been responsible for nearly 50 p.c. of the total increase in manufacturing employment. In 1953 they turned out goods valued at approximately \$1,700,000,000, or close to 10 p.c. of the gross value of manufacturing production of \$18,000,000,000.

As with new investment, the impact of these new developments on the Canadian economy has varied from year to year. In terms of both capital investment and numbers of new establishments, it was greatest in 1952. Much the same is true of their employment effects. Owing largely to a greater average number of workers, new plants have provided more jobs in the early 1950's than in previous years. In the late 1940's, they continued to provide work for between 7,000 and 9,000 employees. In 1952, 650 new manufacturing plants provided some 34,000 new jobs for Canadians. During the first eleven months of 1953 the number of new plants was around 200, and new job opportunities, 19,000.

Of the 2,269 new manufacturing establishments (employing ten or more workers) that have begun production in Canada since 1945, Canadian-owned concerns account for 1,829, while plants either controlled abroad or with foreign affiliations number 440. Of the latter, 307 come from or are affiliated with companies in the United States, while 80 have connections in the United Kingdom and other countries account for 53.

The following table gives the current employment of these new manufacturing plants, drawing a distinction between new firms and the establishment of new branches of companies already in operation.

* For purposes of this article, new plants are taken to be those new manufacturing firms and branch plants of older firms currently employing more than ten people. Smaller concerns are not included because reliable statistics relating to their operations are not available. In aggregate terms this is not too important, since firms employing less than ten people account for only about 5 p.c. of the employment in Canadian manufacturing.



new industrial giant, the 32.5-acre Ford of Canada assembly plant at Oakville, Ont., produced its first car on May 11, 1953, just one year after the first steel was erected for the \$35,000,000 project. The plant, when in full production, will employ about 4,000 persons.

skilled metal finishers prepare car hoods for painting.



Employment in New Post-War Manufacturing Plants, 1953

Item	New Firms	New Branches	Total
	No.	No.	No.
Number of New Plants—			
Canadian-owned.....	1,522	307	1,829
Owned or affiliated elsewhere.....	337	103	440
Totals, New Plants.....	1,859	410	2,269
Employment in New Plants—			
Owned or Affiliated in—			
Canada.....	51,008	23,827	74,835
United Kingdom.....	18,269	6,015	24,284
United States.....	14,248	12,427	26,675
Elsewhere.....	1,670	632	2,302
Totals, Employment in New Plants	85,195	42,901	128,096



Cutting tables in shirt factory. The men's factory clothing industry mainly concentrated in Quebec. The 577 establishments operating in 1951, 347 were located in the Province and 15 were in Ontario.

There has been a marked difference in the average size of the new Canadian-owned plants, relative to those originating or with affiliations outside this country. Of these new large and medium-sized post-war plants, Canadian-owned factories now employ an average of 40 people. This is low, when compared with 95 for the United States and well over 100 for factories owned by or affiliated with companies in the United Kingdom.

This discrepancy in size is caused mainly by the fact that most firms with foreign connections are already well established elsewhere. Plants with foreign affiliations have tended to enter those lines of manufacturing where large-scale operations are typical of the industry. Also, being in a position to raise larger amounts of capital and already possessing much of the necessary technical knowledge, they are frequently able to start production in a bigger way than are Canadian-owned companies. This, plus the fact that they are usually backed by much stronger research and financial organizations, helps to ensure greater continuity in their Canadian operations.

Meanwhile, the impact of Canadian-owned plants has been greatest in the clothing, furniture, sawmill, building materials and food and beverage industries. These, as commercial-failure statistics show, are the more vulnerable short-lived businesses. Canadian enterprise has also been quite important in the paper and iron and steel products groups. The United States owned and affiliated establishments have created many more jobs in the electrical apparatus, motor-vehicles and parts, industrial machinery and non-ferrous smelting and refining industries, and has assumed greater importance in the manufacture of industrial and consumer chemicals and in the refining of petroleum. New United Kingdom affiliates are to be found generally in the aircraft industry, while firms from continental Europe, including Switzerland and Germany, have shown a tendency to favour the production of building materials and industrial machinery and equipment.

New Plants, by Industry.—In terms of total employment created by new plants during the post-war period, transportation equipment is well in the lead. Industrial machinery and clothing are just about tied for second place.

They, in turn, are closely followed by the electrical apparatus, wood products, food processing and chemicals industries, in that order. Sizeable gains have also been made by paper products, primary textiles and new factories making non-metallic building materials.

Employment in New Post-War Plants as compared with Total Employment in Manufacturing Industries, 1946-53

Industry	Total Employment 1953 ¹	Net Change in Employment 1946-53	1953 Employment in New Post-War Plants		
			Number	P.C. of 1953 Employment	P.C. of Net Change 1946-53
Food, beverages and tobacco.....	188,000	16,300	8,874	4.7	54.4
Rubber products.....	23,000	1,000	741	3.2	74.1
Leather products.....	34,000	-3,300	2,177	6.4	²
Textile products.....	76,000	9,200	6,619	8.7	71.9
Clothing.....	110,000	4,100	14,535	13.2	²
Wood products.....	124,000	18,500	10,149	8.2	54.9
Paper products.....	82,000	14,600	6,992	8.5	47.9
Printing and publishing.....	68,000	19,100	1,137	1.7	6.0
Iron and steel products.....	193,000	41,600	14,540	7.5	35.0
Transportation equipment.....	165,000	64,200	27,629	16.7	43.0
Non-ferrous metal products.....	52,000	11,100	3,507	6.7	31.6
Electrical apparatus.....	83,000	39,000	11,158	13.4	28.6
Non-metallic mineral products.....	32,000	7,600	6,313	19.7	83.1
Products of petroleum and coal..	19,000	6,900	1,720	9.1	24.9
Chemical products.....	46,000	8,000	7,308	15.9	91.4
Miscellaneous.....	32,000	10,900	4,697	14.7	43.1
Totals.....	1,327,000	268,800	128,096	9.7	47.7

¹ Estimate. ² Employment in new post-war plants is greater than the net change in employment, 1946-53.

These figures show that new job opportunities since 1945 have been relatively more important in the case of non-ferrous metal products (building materials) and chemicals and much less significant in the case of printing and publishing and the manufacture of leather and food products. The table also

... packing sausages in a Western Canada meat-packing plant. Slaughtering and meat packing is Canada's second most important industry in gross value of production and in employment provided.



gives an indication of the proportion of each industry's post-war growth resulting from the setting up of new plants. Here again, capital goods appear to be the principal "growth" industries. On the other hand, several consumer goods industries, such as clothing, home furnishings and rubber and leather footwear, have either contracted in an over-all sense or have vacated factories almost as rapidly as new ones were set up.

Industrial Development, by Regions.—Measured in terms of new investment or in terms of new employment opportunities, manufacturing has progressed most rapidly in the Province of Ontario. Quebec is not far behind. From the standpoint of new employment, the Prairie Provinces, taken collectively, are third followed by British Columbia and the Maritimes, in that order. British Columbia, however, is ahead of both the Prairie and Atlantic regions when it comes to capital expenditure and number of new plants established since 1945. That Province's success in attracting and expanding manufacturing industries can be measured in various ways, as shown in the following table.

New Capital Investment, New Manufacturing Plants and Employment, by Region, 1946-53

Region	P.C. of Total Population	New Capital Investment ¹		Number of New Plants	
		\$'000,000	P.C. of Total	No.	P.C. of Total
British Columbia.....	8	569.6	11	225	10
Prairie Provinces.....	18	433.8	8	216	9
Ontario.....	33	2,669.3	50	857	38
Quebec.....	29	1,413.4	27	858	38
Atlantic Provinces.....	12	223.0	4	113	5
Totals.....	100	5,309.1	100	2,269	100
		Employment in New Plants		Total Manufacturing Employment	
		No.	P.C. of Total	No.	P.C. of Total
British Columbia.....	8,554	7	90,000	7	
Prairie Provinces.....	9,412	7	89,000	7	
Ontario.....	62,405	49	630,000	47	
Quebec.....	41,683	32	445,600	34	
Atlantic Provinces.....	6,042	5	70,900	5	
Totals.....	128,096	100	1,327,000	100	

¹ Current year dollars and including Federal Government capital assistance.

During the period 1946-53, Canada as a whole has shown an average annual increase of over 3 p.c. in manufacturing employment. The greatest growth, just over 6 p.c., was recorded by Alberta, but Newfoundland was also well above and Ontario marginally above the national average. Only in Saskatchewan has there been a falling-off in manufacturing employment since the end of World War II.

The program of industrial development has been erratic, fluctuating year by year and especially between provinces. As might well be expected, regional ups and downs have to a considerable extent balanced each other out. For



The recent trend in industrial production in Canada is towards greater diversification and both labour and management are acquiring new manufacturing skills and experience.

▲
Making dolls for the domestic and United States markets, a specialized and creative handicraft industry.



▲
Grinding and polishing lenses, the technical knowledge for which was brought from Germany.



◀
At a Toronto baby-carriage factory, vinyl plastic-coated fabric, recently developed in Canada, is expertly stitched to light metal frames.

the nation as a whole, however, each year has shown an increase, be it large or small, over the preceding one. The already highly industrialized provinces of Central Canada, together with Manitoba, have shown the most consistent year-by-year growth. British Columbia, Nova Scotia and Newfoundland, on the other hand, have shown substantial variations in new investment and manufacturing employment. This can be explained in British Columbia and Newfoundland by the fact that large-scale developments in resource processing have been more common in these Provinces. Many of these projects, furthermore, were launched in the early 1950's.

Regionally, covering Canada from west to east, the following picture emerges.

In British Columbia the wood-products industry, principally sawmills but including new plants manufacturing plywood and furniture, are well out in front. This is so both in numbers of firms and in new employment opportunities. Next in line comes paper products. Four new mills have been built and others expanded to increase British Columbia's output of newsprint, kraft, and dissolving pulps. New plants making chemicals, principally fertilizers and plywood adhesives, have been prominent, as well as firms making machinery and equipment. Food processing has also made considerable headway and, in investment terms, petroleum products are worthy of comment. Construction work on four new refineries commenced when construction was started on the Trans-Mountain oil pipeline in 1951.

In the Prairie Provinces, the nature of developments vary from one province to another. Alberta has moved to the forefront, especially since 1950. There the emphasis has been more on the manufacture of machinery and equipment, including products like drill bits and tanks, heat exchangers and other bulky equipment for the burgeoning oil and gas industries. Chemicals, and especially petrochemicals, have made striking gains; second in terms of new growth, they now embrace various rayon intermediates and polythene plastics, as well as fertilizers and the manufacture of other new inorganic products like caustic soda and chlorine. Sizeable gains have been made by the expansion of food-processing plants and the construction of still more factories for making building materials.

Developments in Saskatchewan, by contrast, have continued along more or less traditional lines. The largest gains, for instance, have been recorded in food processing. Notable in this respect has been the establishment of three new fresh-water fish-packing plants. The manufacture of building materials, including non-metallic mineral products and lumber, has also increased. However, the largest single gain in employment has been in the refining of prairie oil for local use.

Manitoba, next to Alberta, has made the best showing on the prairies, a surprisingly large number of small and medium-sized firms having located in the Winnipeg area since 1945. The clothing industry has outstripped electrical apparatus in employment gains; food processing, building materials and machinery manufacture following in that order. Plant-wise, however, the largest single increase has been in meat packing, although three large electrical apparatus concerns and a sizeable new oil refinery have also been established in that area.

Although the Central Provinces, Ontario and Quebec, have witnessed post-war developments of some consequence in almost all industrial cate-



From both sides of the Ottawa River, a mile and a half of pulp and paper mills have an excellent view of Canada's Government buildings. The Chaudière Falls are in the foreground.

gories, there still seems to be a strong tendency for new firms in certain industries to go to Ontario, and for others to gravitate to Quebec. Ontario has continued to gain in such traditional lines as motor-vehicles, industrial and farm machinery, and the manufacture of household equipment. The same may be said of other "hard" goods like business and office machinery, and electrical apparatus and supplies. Numerous plants making aircraft components and building materials have favoured the Toronto area, and chemicals production has been rising by leaps and bounds in the vicinity of Sarnia and along the lower reaches of the St. Lawrence River between Cornwall and Kingston. Quebec, at the same time, has also made great progress. For one thing, it has widened its lead in almost all branches of textile manufacturing and in certain leather products. In shipbuilding and the building of aircraft and railway rolling-stock it has remained strong. In pulp and paper and oil refining it still leads all other provinces. Quebec, with its new furniture factories, its new titanium smelter and its expanded aluminum-making facilities, is challenging Ontario's long-established lead in a number of the wood and non-ferrous metal products industries as well.

In the Atlantic region, the program of industrial development has been much more selective. Fish processing, new sawmills, increased pulp-making capacity, and the manufacture of non-metallic building materials like cement and gypsum products have accounted for well over half of the industrial

growth. There are a few outstanding exceptions, nonetheless. Two sizeable defence industries have been established at Halifax, one to repair and overhaul naval aircraft and the other to build and repair radar and related electronic equipment. A great deal of interest has also been aroused by several ventures in Newfoundland which have received the backing of European firms. Besides plants for the manufacture of cement and gypsum wallboard and plaster, they include a leather tannery and factories for producing boots and shoes, birch veneer, and industrial machinery. With these exceptions, most of the developments in the Atlantic Provinces have either been small and scattered, or confined to the modernization and expansion of manufacturing facilities that were already in being at the close of World War II.

Throughout the post-war years, the larger Canadian cities have attracted an exceptionally large number of new plants and their existing industries have grown much more rapidly than the Canadian average. Montreal and Toronto, for instance, have surged ahead in these respects. No less than one out of every four new Canadian plants has located at Montreal and vicinity. Toronto has done almost as well, with close to one out of every five of the nation's new plants. Between them, they have split, almost evenly, 40 p.c. of the job opportunities in new post-war plants. So pronounced has this tendency to centralization become that, together with Vancouver, Edmonton, Winnipeg and Hamilton, these great metropolitan areas have accounted for almost half of Canada's post-war expansion in manufacturing.

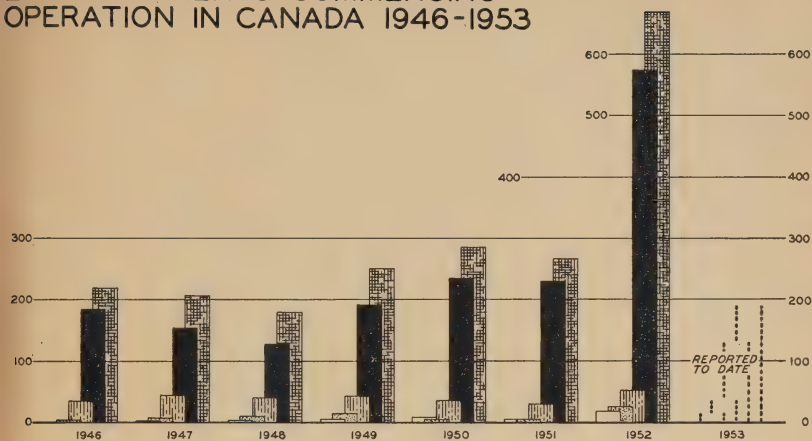
Contributing Factors.—The factors that have contributed to the growth in Canadian manufacturing, both industrially and regionally, are many and varied. They range from the placement of defence contracts on behalf of the Canadian and United States Armed Forces to the constantly changing Canadian market for investment goods; and from Canada's growing importance as an exporter of semi- and fully-processed goods to the fact that, with rising levels of investment and personal income, more and more capital and consumer goods may be manufactured economically in this country.

Let us take defence production first. What new facilities and how many new jobs have resulted from the several billions of dollars' worth of defence contracts that have been let since the outbreak of war in Korea? Capital expenditure by the Canadian Government since 1950 adds up to over \$160,000,000. Most of this has gone into the aircraft and to a lesser extent into the shipbuilding, ammunition and electronics industries.* Yet, this additional defence money has resulted in the erection of at least 20 new factories, some employing thousands of people and some making products entirely new to Canada, such as radar sets, jet engines, aircraft instruments and marine propulsion equipment. All are of the most advanced types and all are being made with the latest machinery and equipment. Designed with additional capacity in the event of emergency, they have, through their performance, received high praise from visiting United States, British and other NATO defence officials. To-day they provide employment for over 30,000 Canadians.

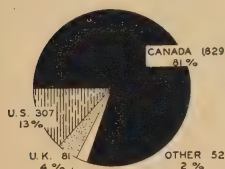
Strategically of equal importance, and probably of even greater long-term significance to the Canadian economy, has been the growing world-wide

* Aircraft, \$108,000,000; ammunition, \$21,000,000; shipbuilding, \$18,000,000; guns, \$5,000,000; electronics, \$2,000,000; and other industries, \$6,000,000.

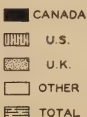
NUMBER OF NEW MANUFACTURING ESTABLISHMENTS COMMENCING OPERATION IN CANADA 1946-1953



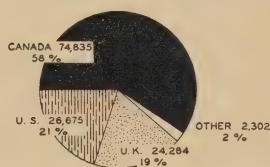
TOTAL NUMBER OF 1946-1953 ESTABLISHMENTS BY NATIONAL AFFILIATION



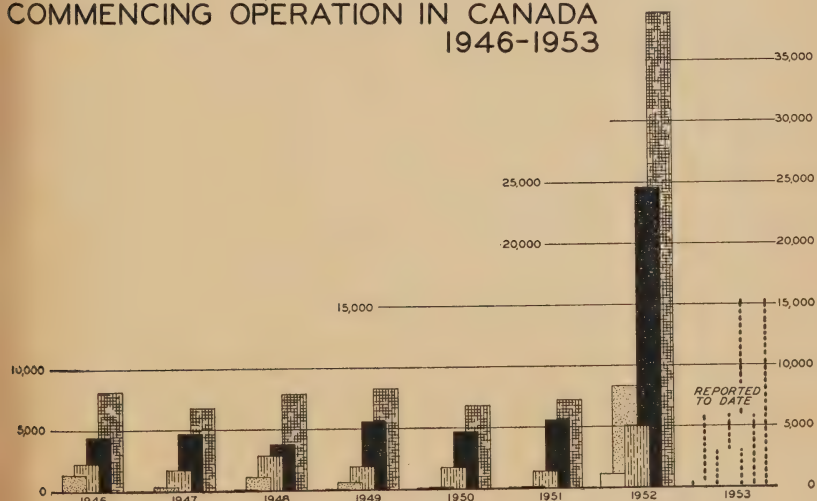
LEGEND



TOTAL CURRENT EMPLOYMENT IN 1946-1953 ESTABLISHMENTS



FIRST YEAR-END EMPLOYMENT OF NEW MANUFACTURING ESTABLISHMENTS COMMENCING OPERATION IN CANADA 1946-1953



shortage of raw materials—a shortage born of rising levels of employment and income, and accentuated by the course of international events, especially since 1950. These demands have shown few signs of abating and they have led to substantial increases in Canadian primary manufacturing capacity, particularly in so far as the light metals, nickel, chemical fertilizers and the cheaper grades of paper are concerned.

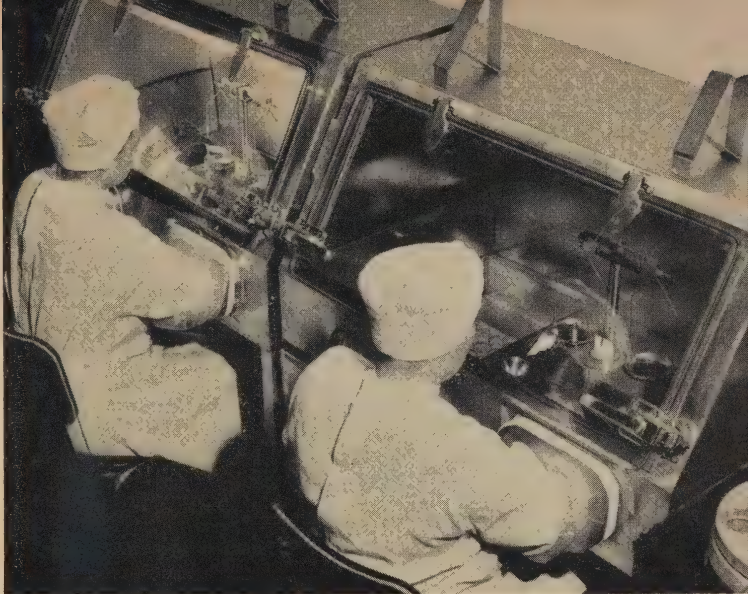
In helping to meet these demands, Canada's aluminum manufacturing capacity has been increased by approximately 50 p.c. The production of magnesium metal, this time in two separate plants, has been revived, and cobalt ores are once more being treated in Canada and exported in substantial quantity. Ilmenite is being processed from titanium slag in Canada for the first time and, in the case of nickel, new processes together with the need to treat a growing volume of lower grade ores have necessitated the construction of one new refinery and heavy investments in others. In all, half a dozen non-ferrous metal smelters or refineries, involving outlays of approximately \$200,000,000, have been built or substantially expanded in Canada over the past three or four years. Employment in this sector of Canadian industry has, meanwhile, increased by about 5,500 workers.

Other Canadian chemical process industries have also been responding to the pull of the world's markets for semi-processed materials. Foremost among them are the nation's fertilizer and pulp and paper producers, both heavy users of cheap hydro-electric power. In the case of fertilizers, manufacturing capacity has been expanded by a third since the end of World War II. Turning to pulp and paper, the story is in some ways even more impressive. Twelve entirely new mills have been built, one making newsprint and the rest mainly sulphite and sulphate pulps, some of the dissolving or rayon-grade variety. Another half dozen plants have been substantially rebuilt and many have added by-product plants ranging from the manufacture of composite board to chemicals like vanillin and ethyl alcohol. The new paper mills alone have cost approximately \$250,000,000 and provided 5,000 new job opportunities for Canadians.

Another factor contributing to post-war expansion in Canadian manufacturing industries has been Canada's own investment boom. Ranging all the way from large resource-development projects to the better housing of the people and the improvement of services generally, it has provided a ready market for building materials and machinery and equipment of all kinds. Conditions could hardly have been more propitious for a 25-p.c. increase in Canada's primary iron and steel-making capacity; for the erection of four new cement plants and the extension of others; for the further diversification of Canada's copper and aluminum fabricating mills; and for the growth and better integration of numerous plants devoted to the making of such construction materials as plumbing and heating supplies, sanitary ware, cement, mineral wool and gypsum products, and such commodities as paints, plywood, wire and cable. In fact, many concerns making building materials have expanded their output several times over since the end of World War II.

In the case of machinery and equipment, many new lines have been introduced, the more notable including diesel locomotives, oil pipeline pumping and control equipment, chemical processing equipment, and mining machinery. There has also been some further diversification in the production of machine tools since 1950.

girls loading containers with drugs. Sterile conditions are maintained by the use of airtight boxes and long-armed plastic gloves. More than 200 plants, employing about 7,500 people, manufacture \$90,000,000 worth of patent and proprietary medicines and pharmaceuticals in Canada each year.



In one or two industries, there has been a strong tendency towards integrated production with plants in the United States. This is the case with farm machinery, where Canadian plants have recently become the exclusive continental and sometimes world source of selected agricultural implements like combines, seeding equipment and farm tractors. There has also been a tendency for this type of integration to occur with business and office machinery and even more so with some makes of aircraft engines. For instance, one large new United States branch plant has recently become the world supplier of reciprocating aircraft engines.

As far as capital investment in consumer goods is concerned, the late 1940's were the best years in this post-World-War-II period. Import controls and the anticipation of a continuing U.S. dollar shortage led to the establishment of numerous plants making goods of almost every kind. By 1950, some 30 plants had been set up to produce consumer durables like refrigerators, washing machines, radios, furniture, etc. The timing has been much the same with textiles, the number of new primary mills and clothing factories showing a perceptible falling-off after 1949. Since then the emphasis has been more on modernization, only automobiles and synthetic textiles showing a further important increase in manufacturing capacity.

In recent years the demands stemming from population growth and a rising standard of living have been noticeable at all levels. In food processing, a steady up-grading in the quality of foods sold on the domestic market has been even more important than population growth. The two together have more than doubled the dollar sales of processed foods in this country since 1945. And at the intermediate level other important changes have been taking place. Many of Canada's new chemical plants, for example, have been built with the domestic consumer market in mind. Frequently using petroleum or natural gas as a source of raw material, they have gone a long way towards making Canada independent of imports in such categories as

vanillin, nylon and rayon intermediates, and plastics for packaging and similar uses.

The following table illustrates in a general way the effects that these various factors have had on Canada's industrial development since 1945.

New Capital Investment, New Plants and Employment, by Primary and Secondary Industry, 1946-53

Item	Primary Manu- facturing	Secondary Manufacturing			Total Manu- facturing
		Consumer Goods	Investment Goods	Defence Goods	
New capital investment 1946-53.....\$'000,000	1,100	2,925	1,130	154	5,309
New Plants.....No.	111	1,168	920	70	2,269
New plant employment..... "	6,520	50,622	39,510	31,444	128,096
Total Manufacturing Employment—					
1946.....No.	113,000	686,000	259,000	..	1,058,000
1953..... "	142,000	860,000	325,000	..	1,327,000
Percentage change.....	25.7	25.4	25.5	..	25.4

Outlook for Industrial Development.—What of the future? Is the tempo of industrial development in Canada likely to go on increasing? Or must we assume that, as in the past, it will sooner or later slow down again? Perhaps the answer lies somewhere between these two extremes. What we may see is new investment in manufacturing and also the establishment of new firms and industries following a more or less irregular course—first up, then down—but in the long run tending to establish new records in capital investment, employment and, above all, in production.

True, some investment programs, especially those involving steel, industrial chemicals and pulp and paper, are showing signs of tapering off. Yet, even in these cases, the swing is more from the construction of new and entirely separate plants to modernization and fuller plant integration. But offsetting this is the fact that capital expenditures in certain other manufacturing industries promise either to be up somewhat or at least well maintained in the years immediately ahead. This is particularly true of food processing, oil refining, some building materials, and of essential consumer and luxury goods lines. What may be witnessed over the next year or two is a shift in emphasis between different industries, rather than a decided swing one way or another in manufacturing as a whole.

Even more reassuring is the schedule of new projects still on the drawing boards or just entering the construction stage. The large and medium-sized projects known at the end of 1953 total nearly \$1,000,000,000—something like 24 months' work, even at the 1950 level of capital expenditure.

There is other, though somewhat less tangible, evidence relating to Canada's future industrial development. Numerous other ventures, no doubt, will be firming up over the next few years and taking the place of those presently under way. They will follow almost inevitably from industrial research and the development of new products and processes, particularly in the metallurgical field, in chemicals, in oil refining, and in the other metal



A new specially equipped plant in North Toronto overhauls every conceivable type of aircraft instrument and makes new equipment for the RCAF and RCN.

alloying and liquid and gas handling industries. Some will also be predicated on the continuing world demand for Canadian processed materials, particularly those based on cheap hydro-electric power and natural gas. Others will be contingent on a continuing defence production program—one which is based as much on keeping abreast of technological change as on turning out a large volume of munitions of war. And still others will emerge with the popularization of new means of transportation and communication, like air travel and television.

Thus, for a number of years circumstances may continue to help manufacturing grow more rapidly than the balance of the Canadian economy. What this means in terms of national self-sufficiency, of national productivity, and of national well being at the consumer level is difficult to foretell. But one thing is certain—the next few years will see the writing of yet another and perhaps even more exciting chapter in the story of Canada's industrial development.

Statistics of Manufactures

The following tables give a general picture of the growth of manufacturing in Canada, as well as current information on number of establishments, employees, salaries and wages paid, cost of materials used, and gross and net value of products.

Statistics of Manufactures, 1870-1952

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
1870 ²	41,259	187,942	40,851	124,908	96,710	221,618
1880 ²	49,722	254,935	59,429	179,919	129,757	309,676
1890 ²	75,964	369,595	100,415	250,759	219,089	469,848
1900 ³	14,650	339,173	113,249	266,528	214,526	481,053
1910 ³	19,218	515,203	241,008	601,509	564,467	1,165,976
1920 ²	22,157	591,753	711,080	2,083,580	1,609,169	3,692,748
1929.....	22,216	666,531	777,291	2,029,671	1,755,387	3,883,446
1933.....	23,780	468,658	436,248	967,789	919,671	1,954,076
1940.....	25,513	762,244	920,873	2,449,722	1,942,471	4,529,173
1943.....	27,652	1,241,068	1,987,292	4,690,493	3,816,414	8,732,861
1944.....	28,483	1,222,882	2,029,621	4,832,333	4,015,776	9,073,693
1945.....	29,050	1,119,372	1,845,773	4,473,669	3,564,316	8,250,369
1946.....	31,249	1,058,156	1,740,687	4,358,234	3,467,004	8,035,692
1947.....	32,734	1,131,750	2,085,926	5,534,280	4,292,056	10,081,027
1948.....	33,447	1,156,006	2,409,809	6,632,881	4,940,369	11,876,790
1949.....	35,792	1,171,207	2,591,891	6,843,231	5,330,566	12,479,593
1950.....	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,526
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187
1952 ^p.....	..	1,273,187	3,609,546	9,104,626	7,417,458	16,915,215

¹ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this only the cost of materials is deducted.

² From 1870 to 1890 and from 1920 to 1952 the figures include all establishments irrespective of the number of employees but exclude construction and custom and repair work.

³ Includes all establishments employing five hands or over.

Principal Statistics of Fifteen Leading Manufacturing Industries, 1951

Industry	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
Pulp and paper.....	126	57,291	213,170	483,014	679,258	1,237,897
Slaughtering and meat- packing.....	155	20,914	62,109	767,367	120,489	892,091
Non-ferrous metal smel- ting and refining....	17	22,814	75,475	553,659	262,973	861,316
Motor-vehicles.....	19	30,479	101,343	469,114	271,114	742,896
Petroleum products....	52	10,611	37,079	438,467	135,903	598,941
Sawmills.....	7,934	62,415	132,059	313,175	271,866	591,552
Primary iron and steel..	57	33,393	108,562	223,012	209,472	464,587
Butter and cheese.....	1,690	20,900	46,782	284,603	82,416	373,746
Rubber goods, including footwear.....	67	23,054	64,358	146,952	161,185	311,678
Railway rolling-stock..	37	33,410	94,029	175,965	119,895	300,627
Flour mills.....	108	4,864	13,597	242,132	37,078	280,867
Cotton yarn and cloth..	54	27,632	58,735	172,443	97,158	273,651
Motor-vehicle parts....	161	21,197	65,283	142,841	117,021	263,133
Miscellaneous food pre- parations, <i>n.e.s.</i>	328	9,194	20,965	192,186	65,325	260,431
Bread and other bakery products.....	2,607	32,252	67,116	121,377	116,352	245,288
Totals, Fifteen Leading Indust- ries.....	13,412	410,420	1,160,662	4,726,307	2,747,505	7,698,701
Grand Totals, All Industries—						
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187
1950.....	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,526
Percentages of Fifteen Leading Industries to All Industries, 1951..	36.2	32.6	35.4	52.1	39.6	47.0

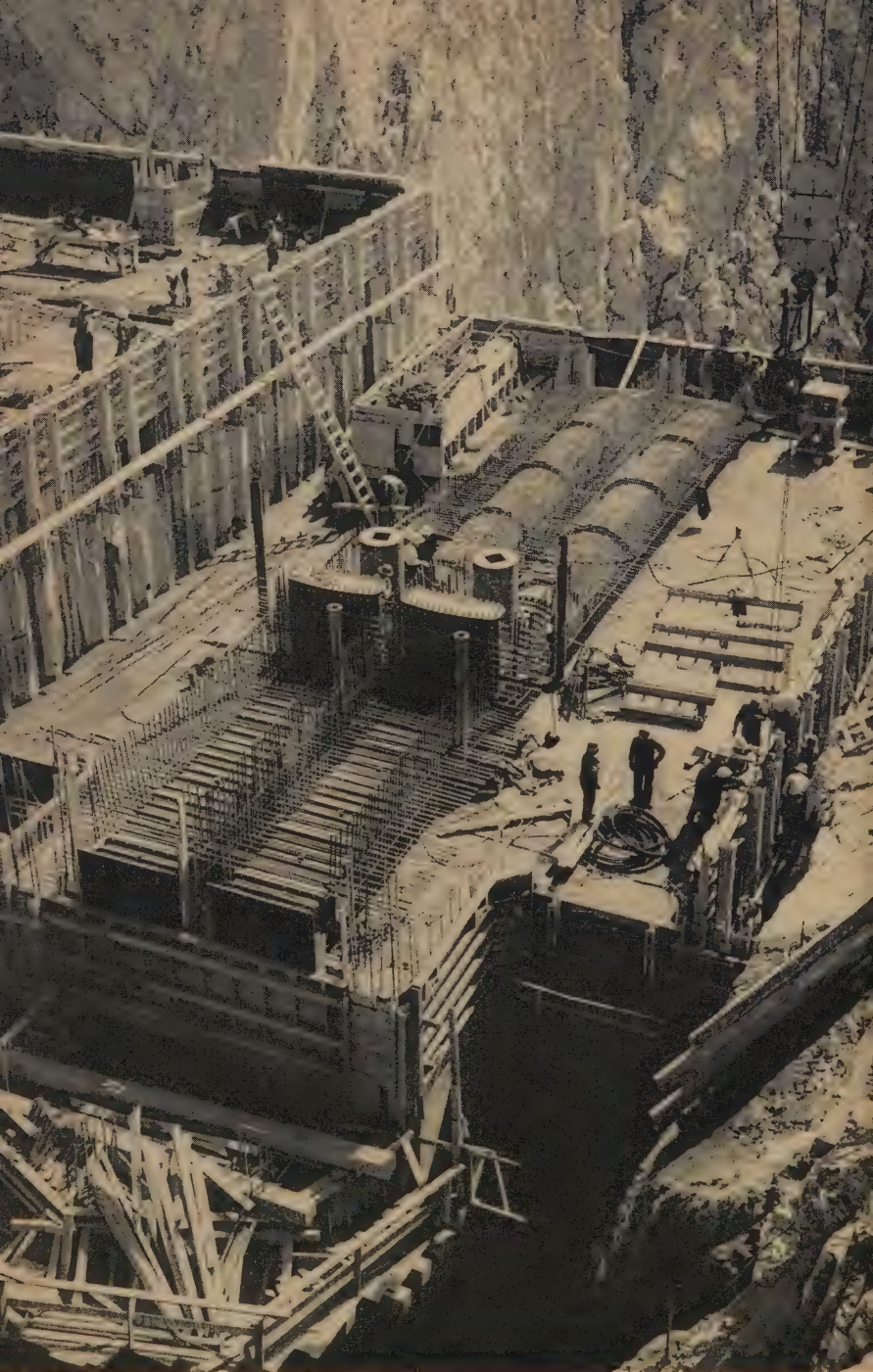
Statistics of Manufactures, by Province, 1951

Province or Territory	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	822	9,622	22,681	43,117	53,690	100,643
Prince Edward Island..	237	1,735	2,459	17,178	5,047	22,524
Nova Scotia.....	1,474	30,512	63,976	172,115	119,487	303,619
New Brunswick.....	1,084	24,505	53,547	176,359	120,595	307,174
Quebec.....	11,861	417,182	1,005,602	2,696,639	2,083,934	4,916,157
Ontario.....	13,025	599,433	1,669,387	4,334,394	3,569,400	8,074,731
Manitoba.....	1,512	41,459	100,171	349,204	192,849	551,346
Saskatchewan.....	973	11,023	26,290	185,151	61,089	250,813
Alberta.....	2,118	29,105	69,136	309,431	141,649	458,281
British Columbia.....	3,897	93,647	262,626	789,840	592,448	1,404,880
Yukon and Northwest Territories.....	18	152	406	1,098	759	2,019
Canada.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187

Urban Centres with Gross Manufacturing Production of Over \$55,000,000 in 1951

NOTE.—Arvida and Noranda, Que., and Copper Cliff, Oshawa and Port Colborne, Ont., cannot be shown.

Urban Centre	Estab- lish- ments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
Montreal, Que.....	4,137	183,438	449,280	17,841	1,026,220	1,849,154
Toronto, Ont.....	3,796	151,335	415,207	17,600	991,268	1,763,192
Hamilton, Ont.....	560	58,841	174,297	20,371	391,413	755,547
Windsor, Ont.....	297	34,865	112,076	5,437	351,697	626,293
Vancouver, B.C.....	1,255	34,376	96,222	5,181	270,749	461,594
Montreal East, Que....	31	5,410	17,042	14,754	315,320	414,262
Winnipeg, Man.....	849	27,704	65,742	3,760	167,584	292,497
Sarnia, Ont.....	52	8,001	25,982	12,382	107,491	194,291
Kitchener, Ont.....	199	15,299	38,816	1,856	106,882	192,548
London, Ont.....	273	15,417	40,515	2,194	79,059	167,351
New Toronto, Ont.....	46	7,214	23,123	1,857	91,080	158,329
Quebec, Que.....	428	15,535	32,531	4,297	82,334	153,312
Calgary, Alta.....	309	8,658	22,905	1,930	108,014	152,277
Edmonton, Alta.....	319	9,422	24,253	1,256	98,578	142,610
Welland, Ont.....	57	8,878	29,600	5,708	66,963	142,358
Brantford, Ont.....	157	13,629	37,794	1,816	71,064	141,506
St. Boniface, Man.....	90	4,168	11,555	1,010	108,631	135,392
Sault Ste. Marie, Ont..	53	8,088	25,545	10,136	68,484	133,912
Leaside, Ont.....	62	10,711	32,425	1,322	66,081	132,148
St. Catharines, Ont.....	110	11,697	35,717	1,679	64,119	131,178
Peterborough, Ont.....	103	10,010	28,853	1,253	77,955	124,656
New Westminster, B.C.	112	6,893	19,342	1,099	62,834	111,954
Shawinigan Falls, Que..	47	5,712	17,338	9,116	47,009	110,247
Three Rivers, Que.....	90	7,705	21,697	6,720	50,030	106,059
Ottawa, Ont.....	292	10,342	25,582	1,955	42,787	95,359
Chatham, Ont.....	76	4,215	11,801	1,134	68,329	94,167
Niagara Falls, Ont.....	78	6,830	20,616	5,836	39,715	93,698
Lasalle, Que.....	40	4,250	11,213	3,036	49,126	93,028
Sherbrooke, Que.....	102	8,813	19,553	1,313	48,419	86,594
St. Laurent, Que.....	48	11,315	33,548	1,243	37,951	85,530
Lachine, Que.....	61	7,987	24,684	1,145	35,983	84,498
Cornwall, Ont.....	50	6,961	18,699	3,519	31,808	78,072
Drummondville, Que..	50	8,586	20,366	1,708	30,822	74,931
Saint John, N.B.....	113	3,534	7,764	1,121	51,396	69,208
Sydney, N.S.....	39	6,090	16,607	5,385	30,688	63,683
Saskatoon, Sask.....	112	2,710	6,627	763	46,224	63,297
Regina, Sask.....	137	2,968	7,879	1,333	42,106	61,896
Guelph, Ont.....	110	6,160	15,710	967	31,224	59,816
Fort William, Ont.....	71	3,486	10,738	2,409	24,320	57,158
Galt, Ont.....	92	6,467	16,531	778	27,369	55,671



New source of water supply for Vancouver—the \$10,000,000 Cleveland Dam—will be completed in 1954. Rising in the narrow Capilano River defile, the dam will contain about 16,500,000,000 gal. of pure mountain water stored in a man-made lake $3\frac{1}{2}$ miles long and half a mile in width. This supply will be available to the residents of Vancouver and district at the rate of 200,000,000 gal. a day.

Capital Expenditures

CAPITAL expenditures of business, government and individuals on construction and on machinery and equipment are made to replace and augment the nation's stock of physical capital. Thus, the extent of investment spending in the country reflects the extent to which the nation is providing for the future, or is becoming industrialized; it also reflects the opinion of businessmen as to future prospects and of governments as to future demands for their services.

Capital expenditures are those made for the building of structures such as factory buildings, mines, stores, theatres, railways, telephone lines, power installations, and for the purchase of machinery and equipment used either in producing goods or providing services. Included in this stock of capital are government-owned assets of a physical nature, such as roads, canals and office buildings and all housing whether rented or owner-occupied. Defence construction is included but all other defence expenditures are excluded. Excluded also from capital expenditures are outlays for the accumulation of inventories and for the acquisition of land.

Capital expenditures tend to fluctuate more sharply than most other expenditure components of the nation and in consequence have an effect on employment and income levels out of proportion to their actual size. Advance knowledge of the intended capital expenditures of the nation is therefore of particular importance for a number of reasons. The size of the program provides a valuable indicator of the outlook of industry on general conditions. Heavy investment in new productive facilities is planned, generally, only when market conditions appear favourable. Conversely, if conditions appear unfavourable, investment in new productive facilities will be curtailed. For these reasons capital expenditure estimates are prepared for the forthcoming year. In this section references to 1954 are based on these estimates of planned expenditures of business and government.

Capital Expenditures in Canada, 1926-54

Year	Value	P.C. of Gross National Product	Year	Value	P.C. of Gross National Product
	\$'000,000			\$'000,000	
1926.....	917	17.3	1941.....	1,463	17.2
1927.....	1,087	19.2	1942.....	1,542	14.6
1928.....	1,296	21.2	1943.....	1,485	13.3
1929.....	1,518	24.6	1944.....	1,309	11.0
1930.....	1,287	23.2	1945.....	1,284	10.8
1931.....	881	19.3	1946.....	1,703	14.2
1932.....	491	13.0	1947.....	2,489	18.1
1933.....	327	9.2	1948.....	3,175	20.3
1934.....	416	10.3	1949.....	3,502	21.3
1935.....	505	11.6	1950.....	3,815	20.9
1936.....	590	12.6	1951.....	4,577	21.3
1937.....	828	15.5	1952.....	5,285	22.9
1938.....	773	14.8	1953 (prelim.)..	5,679	23.4
1939.....	765	13.4	1954 (forecast)..	5,838	..
1940.....	1,049	15.3			



Along the upper reaches of the Nipigon River in northwestern Ontario the sound of construction activity is again breaking the silence of the great forests as workmen start the installation of two additional units at Pine Portage Generating Station, 73 air-miles northeast of Port Arthur. The Station's capacity will be increased to 168,900 h.p. by early 1955.

In 1953, total capital outlays were estimated at \$5,679,000,000, 7.5 p.c. above the 1952 figure, with construction showing a slightly stronger trend than the purchase of machinery and equipment. Development of resources and expansion of productive capacity for basic materials continued to form a large part of the program. However, most of the increases in 1953 were registered by housing, and by institutional and commercial sectors where construction programs were curtailed during the period of the defence build-up.

In the period from 1926 to 1930, investment accounted, on the average, for 21 p.c. of gross national product; in the period from 1947 to 1953 the average was also 21 p.c. However, in the latter period a high level of investment spending was maintained for a longer time with investment exceeding 20 p.c. of gross national product in five of the seven years while in the earlier period 20 p.c. was exceeded in only three of the five years considered. In the latter period, too, investment was at a much higher level than during 1926-30. Expenditures in 1953 were, in dollar terms, 274 p.c. greater than those of 1929. Even if allowance is made for doubling of prices between these two years, the volume of investment was still well over 80 p.c. greater.

In 1953 the three largest sectors—utilities, housing and manufacturing—accounted for over one-half of the total new investment, followed by governments and agriculture and fishing. These five groups accounted for more than 79 p.c. of the total capital expenditures of \$5,679,000,000.

Capital, Repair and Maintenance Expenditures, by Sector, 1952-54

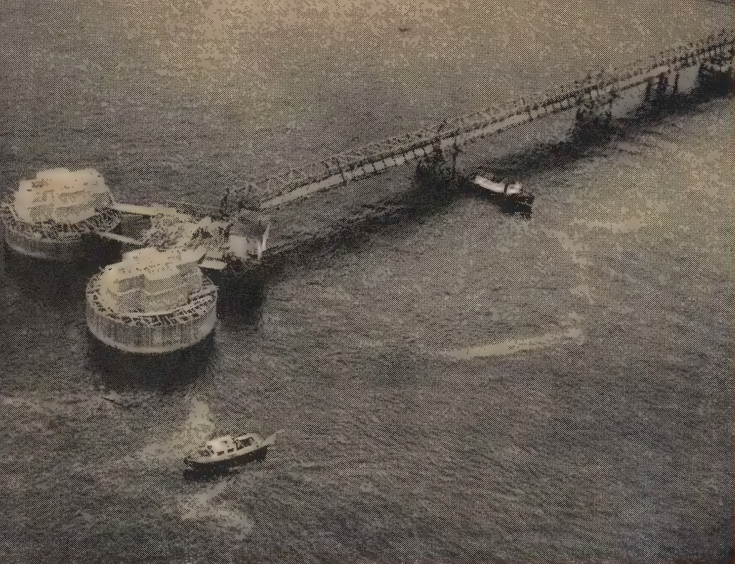
NOTE.—1952 figures are actual expenditures, 1953 figures are preliminary and 1954 figures are forecasts.

(Millions of Dollars)

Type of Enterprise and Year	Capital		Repair and Maintenance		Capital, Repair and Maintenance		Total
	Con-struction	Mach-inery and Equip-ment	Con-struction	Mach-inery and Equip-ment	Con-struction	Mach-inery and Equip-ment	
Agriculture and Fishing—							
1952.....	82	473	65	113	147	586	733
1953.....	85	452	68	122	153	574	727
1954.....	83	405	71	130	154	535	689
Forestry—							
1952.....	19	20	20	28	39	48	87
1953.....	18	17	17	26	35	43	78
1954.....	17	16	14	23	31	39	70
Mining, Quarrying and Oil Wells—							
1952.....	140	71	11	48	151	119	270
1953.....	189	91	13	45	202	136	338
1954.....	223	89	14	46	237	135	372
Manufacturing—							
1952.....	344	629	95	364	439	993	1,432
1953.....	307	633	91	377	398	1,010	1,408
1954.....	289	546	85	375	374	921	1,295
Utilities—							
1952.....	701	458	258	340	959	798	1,757
1953.....	722	446	275	352	997	798	1,795
1954.....	704	535	276	346	980	881	1,861
Construction Industry—							
1952.....	5	68	3	69	8	137	145
1953.....	7	56	3	41	10	97	107
1954.....	8	34	2	37	10	71	81
Housing—							
1952.....	826	—	203	—	1,029	—	1,029
1953.....	1,086	—	213	—	1,299	—	1,299
1954.....	1,122	—	225	—	1,347	—	1,347
Wholesale and Retail Trade—							
1952.....	96	101	33	33	129	134	263
1953.....	171	114	32	32	203	146	349
1954.....	203	135	32	31	235	166	401
Finance, Insurance and Real Estate—							
1952.....	37	14	6	2	43	16	59
1953.....	61	16	7	2	68	18	86
1954.....	94	20	7	2	101	22	123
Commercial Services—							
1952.....	29	67	11	41	40	108	148
1953.....	38	80	12	41	50	121	171
1954.....	18	77	10	41	28	118	146
Institutional Services—							
1952.....	245	33	32	7	277	40	317
1953.....	268	33	35	8	303	41	344
1954.....	366	43	37	8	403	51	454
Government Departments—							
1952.....	739	88	175	35	914	123	1,037
1953.....	694	95	185	36	879	131	1,010
1954.....	738	73	191	34	929	107	1,036
Totals—							
1952.....	3,263	2,022	912	1,080	4,175	3,102	7,277
1953.....	3,646	2,033	951	1,082	4,597	3,115	7,712
1954.....	3,865	1,973	964	1,073	4,829	3,046	7,875

Construction Industry

The most important immediate beneficiary of the capital expenditures program is the construction industry which, in 1953, gave employment to approximately 470,000 people and paid out in salaries and wages about \$1,500,000,000.



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tion.

The summary statistics given here were reported by the industries or sectors of the economy actually paying for the work done by contractors as well as the work done by the labour force of the particular industries and thus are not comparable with previously published figures which were obtained from construction contractors. The coverage of capital expenditures surveys is more comprehensive than that of the previous construction surveys, and such expenditures as architects' fees, legal fees, etc., are now included.

The figures shown in this section, while derived from the same sources as those on capital investment covered in the previous section, are based on earlier data and are somewhat lower in total. In 1953, about \$3,433,000,000 was spent on new houses, buildings and other structures and about \$926,000,000 on repairs to existing structures, bringing the total funds expended on construction of all types to \$4,359,000,000 as compared with \$4,089,000,000 in 1952. This increase, amounting to 6.6 p.c. over 1952 in terms of value, is the smallest increase since 1946. Thus the program for 1953 did not have the same impact on the expanded capacity of the construction industry as did those of some of the other post-war years, particularly 1946, 1947 and 1948.

New and Repair Construction, with Percentage Increases, 1946-53

NOTE.—1951 figures are actual expenditures, 1952 figures are preliminary and 1953 figures are forecasts.

Year	New and Repair Construction	Increase over Previous Year in—		Year	New and Repair Construction	Increase over Previous Year in—	
		Value	Volume			Value	Volume
	\$'000,000	p.c.	p.c.		\$'000,000	p.c.	p.c.
1946.....	1,607	33.4	11.2	1950.....	3,132	9.7	4.2
1947.....	2,016	25.5	12.4	1951.....	3,661	16.9	5.5
1948.....	2,571	27.5	13.1	1952.....	4,088	11.7	6.2
1949.....	2,856	11.1	5.7	1953.....	4,359	6.6	3.9

It is interesting to note that of the total value of construction in each of the years 1951 to 1953 the construction industry proper accounted for about 68 p.c., the remaining 32 p.c. being undertaken by other business or government bodies with their own labour force.

Value of Construction Work Performed, by Principal Type, 1952-53

NOTE.—1951 figures are actual expenditures, 1952 figures are preliminary and 1953 figures are forecasts.

Type of Construction	1951		1952		1953	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$'000		\$'000		\$'000	
Building—						
Residential.....	1,042,000	28.4	1,081,000	26.4	1,225,000	28.1
Industrial.....	483,273	13.2	538,221	13.2	499,933	11.5
Commercial.....	400,153	10.9	360,310	8.8	441,697	10.1
Institutional.....	291,071	8.0	305,480	7.5	344,482	7.9
Others.....	94,166	2.6	164,938	4.0	146,740	3.4
Totals, Building.....	2,310,663	63.1	2,449,949	59.9	2,657,852	61.0
Engineering—						
Roads, highways and bridge construction....	424,425	11.6	422,151	10.3	448,737	10.3
Waterworks and sewage systems.....	86,473	2.4	107,144	2.6	99,403	2.3
Dams and irrigation.....	29,903	0.8	38,914	1.0	41,128	0.9
Electric power construction.....	347,966	9.5	405,425	9.9	379,772	8.7
Railways, telephone and telegraph construction.....	275,546	7.5	314,005	7.7	349,252	8.0
Gas and oil facilities.....	92,400	2.5	221,490	5.4	252,595	5.8
Marine construction.....	36,761	1.0	47,213	1.2	44,779	1.0
Other engineering construction.....	57,015	1.6	82,449	2.0	85,788	2.0
Totals, Engineering..	1,350,489	36.9	1,638,791	40.1	1,701,454	39.0
Totals, Construction	3,661,152	100.0	4,088,740	100.0	4,359,306	100.0

Of the total new and repair construction program of \$4,359,000,000 estimated for 1953, building construction accounts for \$2,658,000,000 or 61 p.c. and engineering works for \$1,701,000,000 or 39 p.c. The estimate for



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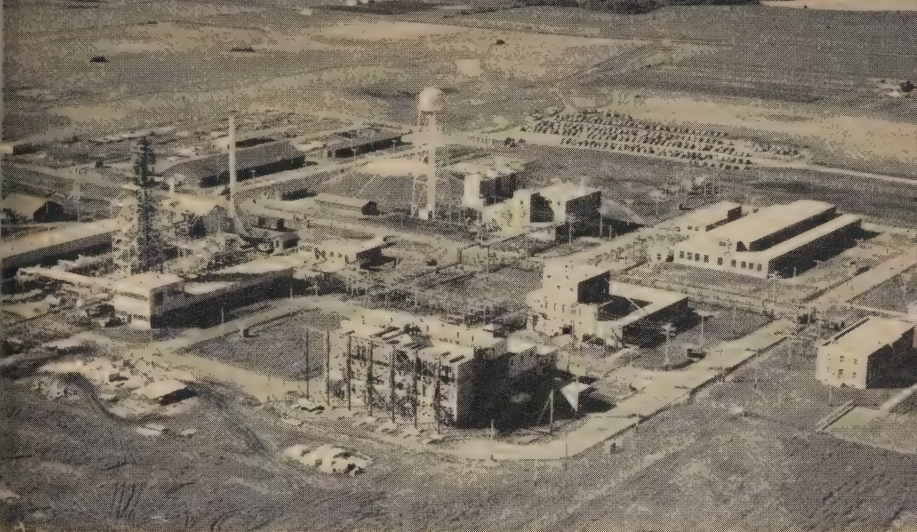
each of these categories is above 1951 and 1952, but the proportion that each constitutes of the total program varies somewhat from year to year. Of the total, building construction accounted for 63.1 p.c. in 1951, 59.9 p.c. in 1952 and an estimated 61 p.c. in 1953, while engineering construction accounted for 36.9 p.c., 40.1 p.c. and 39.0 p.c. in 1951, 1952 and 1953, respectively.

Summary statistics of the construction industry are shown by province and for contractors, utilities, governments and all others in the following table.

Summary Statistics of the Construction Industry, by Province and Contractor, 1951-53

NOTE.—1951 figures are actual expenditure, 1952 figures are preliminary and 1953 figures are forecasts.

Province, Year and Item		Average Employees	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
		No.	\$'000	\$'000	\$'000
Newfoundland.....	1951	8,428	19,316	26,152	49,947
	1952	9,829	25,055	33,921	64,786
	1953	9,235	25,028	33,884	64,715
Prince Edward Island.....	1951	2,383	5,162	7,185	14,313
	1952	1,885	4,539	6,318	12,585
	1953	1,719	4,400	6,124	12,199
Nova Scotia.....	1951	17,905	39,194	53,237	102,331
	1952	17,871	43,498	59,082	113,566
	1953	19,227	49,759	67,586	129,913
New Brunswick.....	1951	15,136	34,435	50,749	93,200
	1952	13,200	33,396	49,218	90,388
	1953	11,670	31,392	46,264	84,963
Quebec.....	1951	129,163	307,279	473,612	898,372
	1952	125,499	331,945	511,630	970,487
	1953	121,659	342,105	527,290	1,000,191
Ontario.....	1951	158,552	446,164	700,794	1,349,407
	1952	160,655	502,688	789,577	1,520,362
	1953	159,495	530,480	833,230	1,604,418
Manitoba.....	1951	24,600	62,534	100,648	182,526
	1952	22,432	63,415	102,066	185,098
	1953	23,489	70,584	113,603	206,021
Saskatchewan.....	1951	19,666	49,460	84,113	153,762
	1952	20,859	58,343	99,219	181,377
	1953	23,495	69,852	118,791	217,155
Alberta.....	1951	46,424	122,746	199,068	379,256
	1952	48,456	142,461	231,042	440,171
	1953	51,196	159,987	259,465	494,320
British Columbia.....	1951	45,267	143,632	227,320	438,038
	1952	47,393	167,203	264,624	509,921
	1953	47,678	178,840	283,041	545,411
Totals.....	1951	467,524	1,229,922	1,922,878	3,661,152
	1952	468,079	1,372,543	2,146,697	4,088,740
	1953	468,863	1,462,427	2,289,278	4,359,306
Construction contractors.....	1951	286,170	778,471	1,284,492	2,490,327
	1952	284,959	862,053	1,423,503	2,760,390
	1953	292,309	938,659	1,545,437	2,996,279
Utilities.....	1951	82,364	215,135	274,987	539,284
	1952	90,518	262,928	336,338	659,732
	1953	87,644	270,235	344,665	675,941
Governments.....	1951	67,932	145,617	167,402	327,922
	1952	61,558	146,743	168,827	330,797
	1953	57,765	146,168	167,671	328,454
Others.....	1951	31,058	90,699	195,997	303,619
	1952	31,044	100,819	218,029	337,821
	1953	31,145	107,365	231,505	358,632



Canada's first plant for the production of polythene, one of the most versatile of plastics, located just outside of Edmonton, Alta. The plant uses as its basic raw material natural gas piped from Devon, 15 miles to the southwest.

Housing

The volume of new house building was greater in 1953 than in any previous year. Total housing starts numbered 102,409, an increase of 22 p.c. over the number started in 1952. All regions of the country shared in the increase: in the Atlantic Provinces, housing starts rose 25 p.c. to 5,921 units; in Quebec, 15 p.c. to 30,249 units; in Ontario, 29 p.c. to 38,873 units; in the Prairies, 25 p.c. to 18,776 units; and in British Columbia, 21 p.c. to 8,590 units. The number of housing completions stood at 96,939 in 1953, an increase of 33 p.c. from the 1952 total.

Of the dwellings completed in 1953, 83 p.c. were built in urban areas, about the same proportion as in 1952. Single-family detached dwellings accounted for 71 p.c. of units completed and two-family dwellings accounted for 8 p.c. Apartment units made up a larger proportion of dwelling units completed in 1953 than in previous years, accounting for 21 p.c. of total completions.

New Dwelling Units Completed, by Type, 1949-53

Type	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
New Construction—					
One-family detached.....	68,422	68,685	60,366	55,967	68,916
Two-family detached.....	7,250	7,376	7,568	5,314	7,714
Row or terrace.....	480	145	585	99	372
Apartments.....	11,381	12,809	12,791	11,707	19,837
Totals, New Construction.....	87,533	89,015	81,310	73,087	96,839
Conversions.....	3,422	2,739	3,500	3,215	3,824
Grand Totals.....	90,955	91,754	84,810	76,302	100,663



Trading floor of the Toronto Stock Exchange, where capital passes from the investor to industry for mutual profit. The high level of investment in industry in recent years is tangible evidence of faith in Canada's future.

New Urban and Rural Dwelling Units Completed, by Province, 1952 and 1953

Province	1952			1953		
	Urban	Rural	Total	Urban	Rural	Total
	No.	No.	No.	No.	No.	No.
Newfoundland.....	615	516	1,131	801	679	1,480
Prince Edward Island.....	42	—	42	62	120	182
Nova Scotia.....	877	934	1,811	1,638	522	2,160
New Brunswick.....	690	541	1,231	669	733	1,402
Quebec.....	17,035	5,372	22,407	25,361	4,442	29,803
Ontario.....	22,601	4,860	27,461	28,324	6,849	35,173
Manitoba.....	2,592	550	3,142	3,990	804	4,794
Saskatchewan.....	2,172	458	2,630	3,337	710	4,047
Alberta.....	5,538	666	6,204	8,343	1,511	9,854
British Columbia.....	6,756	272	7,028	7,701	243	7,944
Totals.....	58,918	14,169	73,087	80,226	16,613	96,839

New Dwelling Units Completed, by Metropolitan Area, 1949-53

(Exclusive of Conversions)

Metropolitan Area	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
St. John's, Nfld.....	—	299	326	402	585
Halifax, N.S.....	780	708	620	636	1,241
Saint John, N.B.....	345	332	98	211	273
Quebec, Que.....	1,090	1,473	1,045	1,056	1,580
Montreal, Que.....	14,394	15,826	16,316	11,500	17,833
Ottawa, Ont.....	975	1,938	2,343	1,752	2,149
Toronto, Ont.....	6,712	9,373	13,026	9,576	9,460
Hamilton, Ont.....	1,909	1,511	1,757	1,877	2,961
London, Ont.....	1,204	1,325	1,261	1,358	1,355
Windsor, Ont.....	1,416	1,196	940	818	940
Winnipeg, Man.....	3,228	3,070	2,127	2,088	3,089
Vancouver, B.C.....	5,831	5,028	4,340	4,249	5,913
Victoria, B.C.....	1,021	1,166	844	715	944
Totals, Metropolitan Area.....	38,905	43,245	45,043	36,238	48,323
Totals, Canada¹.....	87,533	89,015	81,310	73,087	96,839

¹ Exclusive of the Yukon and Northwest Territories.

The National Housing Act, 1944, constitutes the principal legislation of the Federal Government in the field of housing. Loans approved in 1952 and 1953 under the Act are given in the following table.

***Net Loans Approved under the National Housing Act, by Province,
1952 and 1953***

Province or Territory	1952			1953		
	Loans	Dwellings	Amount	Loans	Dwellings	Amount
	No.	No.	\$'000	No.	No.	\$'000
Newfoundland.....	26	27	198	155	165	1,244
Prince Edward Island.....	9	9	64	17	233	1,535
Nova Scotia.....	227	260	2,036	378	881	6,150
New Brunswick.....	167	182	1,438	290	313	2,474
Quebec.....	4,092	9,117	60,538	4,496	7,243	53,758
Ontario.....	12,336	16,038	123,794	12,367	17,518	135,638
Manitoba.....	1,380	1,916	13,159	1,477	1,990	14,350
Saskatchewan.....	307	629	4,533	621	820	6,125
Alberta.....	3,486	4,056	28,789	3,476	5,016	36,296
British Columbia.....	1,688	2,089	14,535	1,868	2,322	17,339
Yukon and N.W.T.....	—	—	—	—1	—1	—3
Canada.....	23,718	34,323	249,084	25,144	36,500	274,906

In 1953, of the 100,663 dwellings completed in Canada, about 4,900 were built directly by the Federal Government, 37,517 were built with the aid of federal loans, and 806 were built with guarantee assistance by the Federal Government. Comparable figures for 1952 were: 76,302 dwellings completed; about 3,900 built by the Federal Government; 22,254 built with the aid of federal loans; and 840 with federal guarantee assistance.

Street after street of new houses, typical of the growth of suburban residential areas surrounding most cities. Since the end of the War, 635,000 new dwelling units have been built in Canada.





Labour

CANADA's industry today employs almost five and one-half million persons. Ranging from unskilled labourers to highly trained technicians and executives, these men and women daily play their role in providing this nation's goods and services. Conditions of employment are the concern of the entire community. Through labour and social security legislation, the country as a whole has done much to raise the standards of working conditions and the labour unions, which have expanded greatly over the past decade in over-all membership and particularly in certain industrial areas, have brought about many improvements of value to the worker.

Labour legislation at both federal and provincial levels is designed to set the minimum standards for hours, wages and many other phases of employment. The operations of the Unemployment Insurance Commission provide protection for the worker's income during periods of unemployment. Increased training and placement facilities are now available under government legislation. Finally, collective bargaining legislation ensures the right of workers organized in the unions to bargain collectively with their employers. Such legislation and social developments have increased in importance along with the change in Canada from a primarily agricultural economy to one in which manufacturing is playing an increasingly important part.

Labour unions have in membership a million and a quarter of the workers affected by the more than 6,000 collective agreements negotiated by the unions. The contracts, usually bargained each year, set forth many of the conditions respecting wages, hours of work, seniority and grievance procedures. Of recent years increased wages and reduced hours as well as improved holiday and vacation provisions have been among the improvements in the conditions of employment negotiated by labour and management through collective bargaining.

The Labour Force

The labour force of Canada, as measured by sample surveys conducted by the Dominion Bureau of Statistics, includes those people at work plus those currently available for work. 'Work' in this sense means types of effort for which remuneration is normally received. However, the labour force also includes those persons who did unpaid work which contributed to the running of a farm or a business operated by a relative. Thus a coal-miner or a shop-keeper is considered to be in the labour force but a housewife or a student is not. The labour force is not a fixed body of persons, but is a stream through which most individuals flow for a shorter or longer period. It is constantly changing, as new workers enter and old ones leave.

In June 1953, the Canadian labour force numbered 5,387,000 people, or almost 54 p.c. of the non-institutional civilian population 14 years of age or over. Of the 4,633,000 people outside the labour force, 3,828,000 were women, 87 p.c. of whom were keeping house. Students numbered 543,000 and 742,000 persons were permanently unable or too old to work or were voluntarily idle.

Estimates of the Canadian Civilian Labour Force and its Main Components, June 1, 1931, and 1941-53

(Thousands of persons 14 years of age or over)

Year	Persons with Jobs—				Persons Without Jobs and Seeking Work	Total Civilian Labour Force	Persons not in Labour Force	Civilian Non- insti- tutional Popula- tion ²
	In Non-agricul- tural Industries		In Agri- culture	Total				
	Paid	Other ¹						
1931..	2,006	421	1,203	3,630	475	4,105	2,934	7,039
1941..	2,538	476	1,210	4,224	193	4,417	3,552	7,969
1942..	2,770	488	1,127	4,385	134	4,519	3,381	7,900
1943..	2,906	434	1,107	4,447	75	4,522	3,275	7,797
1944..	2,950	369	1,126	4,445	62	4,507	3,349	7,856
1945..	2,914	363	1,134	4,411	72	4,483	3,509	7,992
1946..	2,957	481	1,261	4,699	125	4,824	3,891	8,715
1947..	3,112	548	1,163	4,823	91	4,914	4,019	8,933
1948..	3,201	537	1,177	4,915	81	4,996	4,057	9,053
1949..	3,312	548	1,110	4,970	101	5,071	4,140	9,211
1950 ³ ..	3,410	562	1,061	5,033	149	5,182	4,413	9,595
1951..	3,640	535	997	5,172	83	5,255	4,459	9,714
1952..	3,782	516	924	5,222	107	5,329	4,581	9,910
1953..	3,854	543	900	5,297	90	5,387	4,633	10,020

¹ Employers, 'own-account' and unpaid family workers. ² Not including persons in remote areas or Indians on reserves. ³ Newfoundland included from 1950.

Industrial Distribution of Persons with Jobs, by Sex, Week ended Sept. 19, 1953

(Thousands of persons 14 years of age or over)

Industry	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Agriculture.....	840	58	898	130	22	152
Forestry.....	79	1	80	64	1	65
Fishing and trapping.....	29	1	29	8	1	8
Mining and quarrying ²	87	2	89	86	2	88
Manufacturing.....	1,096	287	1,383	1,040	280	1,320
Construction.....	380	7	387	323	6	329
Transportation ³	379	53	432	347	52	399
Public utilities.....	56	5	61	55	5	60
Trade.....	581	240	821	446	206	652
Finance, insurance ⁴	90	75	165	78	74	152
Service.....	516	453	969	435	420	855
Totals.....	4,133	1,181	5,314	3,012	1,068	4,080

¹ Fewer than 500. ² Includes oil wells. ³ Includes storage. ⁴ Includes real estate.

About three out of four people in the labour force are male and almost one-half of those in the labour force are from 25 to 44 years of age; the average female worker is considerably younger than the average male worker. Occupationally, one worker out of six is in agriculture; geographically, almost two out of three live in Ontario or Quebec. The percentage of the labour force to the total population 14 years of age or over is lower in Newfoundland, the Maritime Provinces and British Columbia than in the rest of the country. In non-agricultural industries, which employ 4,397,000 people of whom one-quarter are women, about 88 p.c. of the men and 92 p.c. of the

women are paid employees. In agriculture, on the other hand, paid employees form a relatively small element—hardly more than one worker in seven, even during harvest season.

**Occupational Distribution of Persons with Jobs, by Sex,
Week ended Sept. 19, 1953**

(Thousands of persons 14 years of age or over)

Occupation	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Managerial.....	417	45	462	177	17	194
Professional.....	232	143	375	200	139	339
Clerical.....	241	342	583	241	338	579
Transportation.....	361	5	366	339	4	343
Communication.....	38	33	71	38	33	71
Commercial.....	217	139	356	209	122	331
Financial.....	34	2	36	29	2	31
Service.....	207	226	433	192	208	400
Agricultural.....	845	58	903	135	22	157
Fishing, logging and trapping...	93	1	93	59	1	59
Mining.....	56	1	56	56	1	56
Manufacturing and mechanical ¹ ...	746	174	920	726	170	896
Construction.....	337	3	340	307	2	309
Labourers.....	309	11	320	304	11	315
Totals.....	4,133	1,181	5,314	3,012	1,068	4,080

¹ Fewer than 500. ² Includes stationary enginemen and occupations associated with electric-power production.

Employment in 1953

Continued moderate improvement in industrial activity generally was recorded during the first nine months of 1953 and employment reached a new maximum. The percentage advance over the same period of 1952

A tie- and track-layer extends a ribbon of steel through virgin territory. The heavy labour involved in railroad building has to-day been taken over by the machine—a far cry from the early days.



coincided with that of 1952 over 1951. There were differences in the distribution of employment, however, as various industries responded to differing business conditions. On the whole, the increase among women was on a relatively larger scale than that among men, reflecting a reversal of the 1952 downward trend in employment in the non-durable manufactured goods division, which usually employs large numbers and proportions of women. Further marked curtailment in logging, on the other hand, was important among the factors limiting to 1.3 p.c. the 1953 increase over 1952 in the number of men reported in the major non-agricultural industrial divisions, as compared with a rise of 5.9 p.c. among women.

Weekly payrolls in 1953 continued the post-war upward trend. Although the increase of 9.3 p.c. over 1952 was less than that indicated in 1952 over the preceding year, it raised the index to its highest position in the record. Average weekly wages and salaries advanced by 5.9 p.c. to an all-time peak in the 1953 period. Widespread increases were recorded in both weekly payrolls and average earnings.

Industrial employment in the three Maritime Provinces was quieter in 1953 than a year earlier. There was practically no change on the whole in Quebec, while improvement was indicated in the remaining provinces. The considerable increase in the Newfoundland index largely reflected expansion in construction work. Further development of natural resources and associated industrial growth accounted for a rise of 7.5 p.c. in employment in Alberta. The gains in the other western provinces and in Ontario were moderate, but nevertheless resulted in new high index numbers.

Index Numbers of Employment, by Province, 1952 and 1953

NOTE.—The figures are averages for the first nine months of 1952 and 1953.

Province	1952	1953	P.C. Change	Province	1952	1953	P.C. Change
Newfoundland.....	124.0	138.1	+11.4	Manitoba.....	104.7	106.5	+1.7
Prince Edward Island	121.4	114.6	— 5.6	Saskatchewan.....	109.5	113.5	+3.7
Nova Scotia.....	102.8	100.5	— 2.2	Alberta.....	118.3	127.2	+7.5
New Brunswick.....	109.4	101.1	— 7.6	British Columbia...	104.3	107.7	+3.3
Quebec.....	111.7	111.8	+ 0.1				
Ontario.....	110.6	114.2	+ 3.3	Provincial Composite.....	110.1	112.6	+2.3

As already mentioned, there was a falling-off in employment in logging, in which the level was the lowest since 1943. The mining group as a whole showed a small decline from 1952, partly caused by prolonged labour-management disputes in metal mining and by some curtailment of operations in the coal fields. The completion of certain large building contracts in some areas, with lessened road work in others, slightly reduced employment in construction generally, despite accelerated activity in residential construction. Employment in transportation, storage and communication remained stabilized at a high level. The other major industrial groups showed upward trends. The gain of 5 p.c. in manufacturing was most noteworthy, especially large increases in employment being reported in the heavy manufacturing industries, particularly in the transportation equipment, non-ferrous metal and electrical apparatus groups.

the extension of industrial research in recent years has opened a wide field for the laboratory technician.



Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Industrial Group, 1952 and 1953

(1949 = 100)

NOTE.—The figures are averages for the first nine months of 1952 and 1953.

Industry	Index Numbers of—						Average Weekly Wages and Salaries		
	Employment			Payrolls					
	1952	1953	P.C. Change	1952	1953	P.C. Change	1952	1953	P.C. Change
							\$	\$	
Forestry (chiefly logging)	121.2	93.2	-23.1	165.6	136.8	-17.4	55.01	58.91	+ 7.1
Mining.....	116.3	113.3	- 2.6	145.3	150.0	+ 3.2	64.64	68.00	+ 5.2
Manufacturing.....	107.9	113.3	+ 5.0	136.5	151.6	+11.1	55.56	58.70	+ 5.7
Durable goods.....	115.6	124.2	+ 7.4	146.3	167.3	+14.4	59.65	63.26	+ 6.1
Non-durable goods...	101.2	103.7	+ 2.5	126.6	136.6	+ 7.9	51.48	53.95	+ 4.8
Construction.....	117.8	114.7	- 2.6	151.5	166.1	+ 9.6	54.13	59.62	+10.1
Transportation, storage and communication...	110.3	110.3	—	128.8	139.9	+ 8.6	56.28	61.05	+ 8.5
Public utility operation	106.6	111.4	+ 4.5	136.1	151.0	+10.9	61.37	65.05	+ 6.0
Trade.....	108.0	112.0	+ 3.7	133.9	145.5	+ 8.7	45.98	48.30	+ 5.0
Finance, insurance and real estate.....	121.5	121.7	+ 0.2	140.7	147.5	+ 4.8	48.99	51.44	+ 5.0
Service.....	106.1	108.3	+ 2.1	122.1	136.6	+11.9	33.72	36.61	+ 8.6
Industrial Composite	110.1	112.6	+ 2.3	137.0	149.7	+ 9.3	53.86	57.03	+ 5.9

Wage Rates, Hours of Labour and Working Conditions

The trend of wage rates in Canada has been steadily upward since the beginning of World War II. To show this trend, index numbers of wage rates by industry are compiled by the Economics and Research Branch of the Department of Labour and published in the *Labour Gazette* and in the *Annual Report on Wage Rates, Salaries and Hours of Labour in Canada*. It must be emphasized, however, that these indexes measure the trend in rates of wages only and cannot be used to compare wage levels in one industry with those in another.

The basic statistics are average straight-time wage rates or average straight-time piece-work earnings and do not, therefore, include overtime or other premium payments. The information is collected by means of a survey of employers conducted as at Oct. 1 each year, with a sample survey in April and October to determine the intervening trend.

The index numbers reveal a general increase in wage rates from 1939 to 1952 of 163 p.c., from October 1951 to October 1952 of 8.0 p.c. with an estimated additional rise of 1.6 p.c. between October 1952 and April 1953. Based on a selected sample of collective agreements, negotiated wage rates continued to advance between April and October 1953 though not to the same extent as in 1952.

As at Apr. 1, 1953, the average standard work week in manufacturing had decreased to 42.9 hours, almost $2\frac{1}{2}$ hours less than in October 1950. Forty-three per cent of the plant workers were employed in establishments operating on a schedule of 40 hours or fewer per week, and almost four-fifths were in establishments where the five-day week was in effect. Those in plants operating on a schedule of 48 hours or longer comprised 14 p.c. of the total coverage at the time of the April 1953 survey of working conditions.

The standard hours of office staffs of manufacturing establishments have shown a similar shortening in recent surveys. As at Apr. 1, 1953, almost one-half the office employees in Canadian manufacturing were on a scheduled work week of $37\frac{1}{2}$ hours or fewer, while those working over 40 hours comprised about 10 p.c. Establishments with a five-day week for their office staffs employed 84 p.c. of the total, as compared with 76 p.c. in October 1951.

Statistics applying to October 1952 are available for other groups than manufacturing. The proportions of non-office employees in establishments reporting a five-day week were as follows, with bracketed figures representing the proportions of office employees: mining, 47 p.c. (64); transportation, storage and communication (excluding steam railways), 50 p.c. (68); public utilities, 71 p.c. (87); trade, 39 p.c. (61); and services, 28 p.c. (46).

In six of the ten provinces, at least one week's vacation with pay is provided by law. Less than 1 p.c. of the plant workers covered in the survey were in plants reporting no paid vacations as of April 1953. On the other hand, more than 90 p.c. of the plant employees in manufacturing were in establishments where two weeks' paid vacation was given, generally after a service requirement of three to five years. About 15 p.c. were in plants granting two weeks after one year of service. Provision for three weeks' vacation was reported by establishments employing more than one-half the workers, 29 p.c. receiving this after 15 years' service. Ninety-eight per cent of the office employees were in establishments granting a two-week vacation, about nine-tenths of these after one year of service; 60 p.c. worked for firms where three weeks were given, usually after 15 years.

Ninety-five per cent of the plant employees and over 99 p.c. of the office employees in manufacturing were employed by business establishments providing one or more paid statutory holidays. One-half the plant workers and four-fifths of the office workers were eligible for eight or more such days as of April 1953.

Index Numbers of Wage Rates for Certain Main Groups of Industries, 1901-52

(Rates in 1939=100)

Year	Logging	Coal Mining	Metal Mining	Manu- fac- turing	Con- struc- tion	Water Trans- port	Steam Rail- ways	Urban Trans- porta- tion	Tele- phones	General Aver- age ¹
1901...	51.4	47.4	61.2	..	35.3	43.9	33.7	32.8	..	38.1
1905...	57.0	49.5	58.7	..	42.8	44.7	36.5	37.7	..	43.1
1910...	64.0	54.0	62.5	..	50.9	48.4	44.1	44.0	..	49.9
1915...	61.1	58.7	66.2	50.1	59.4	54.0	49.8	50.2	..	53.2
1920...	142.5	113.3	102.9	102.4	106.0	105.2	108.2	99.7	92.2	107.0
1925...	95.2	96.1	93.3	92.3	99.8	90.4	91.2	96.4	89.1	93.8
1930...	97.5	97.1	93.9	95.5	119.1	97.2	100.0	102.3	94.7	99.9
1935...	73.1	95.0	92.6	87.0	93.6	81.1	90.1	94.3	93.0	88.4
1940...	104.9	102.1	102.8	104.3	104.3	105.2	100.0	103.9	101.3	103.9
1945...	153.3	146.2	128.2	146.5	131.1	144.6	125.5	126.6	125.6	141.8
1950...	213.9	200.7	192.0	230.7	194.0	236.3	179.2	192.1	158.9	215.9
1951...	246.2	217.9	222.5	261.6	217.2	256.0	207.4	215.2	175.8	243.6
1952...	293.8	240.6	237.1	277.6	235.2	281.6	233.8	233.5	196.0	263.3

¹ Includes laundries.

Labour Legislation

Provincial Legislation.—Provincial labour laws may be grouped under the following headings: safety laws; laws providing compensation for employment injury; laws regulating hours, providing for paid vacations

This piece of white-hot metal being hammered into shape will become the side-rod of a locomotive. The smithy is the CNR shops at Point St. Charles, Que., which, in 1953, celebrated its 100th anniversary. Nearly all the 1,600 employees are graduates of the Railway's apprenticeship training program and many are second and third generation railwaymen.



and establishing a minimum wage; laws governing collective bargaining and industrial disputes; laws providing for apprenticeship training; laws requiring examination and certification of certain tradesmen; and laws forbidding discrimination in employment.

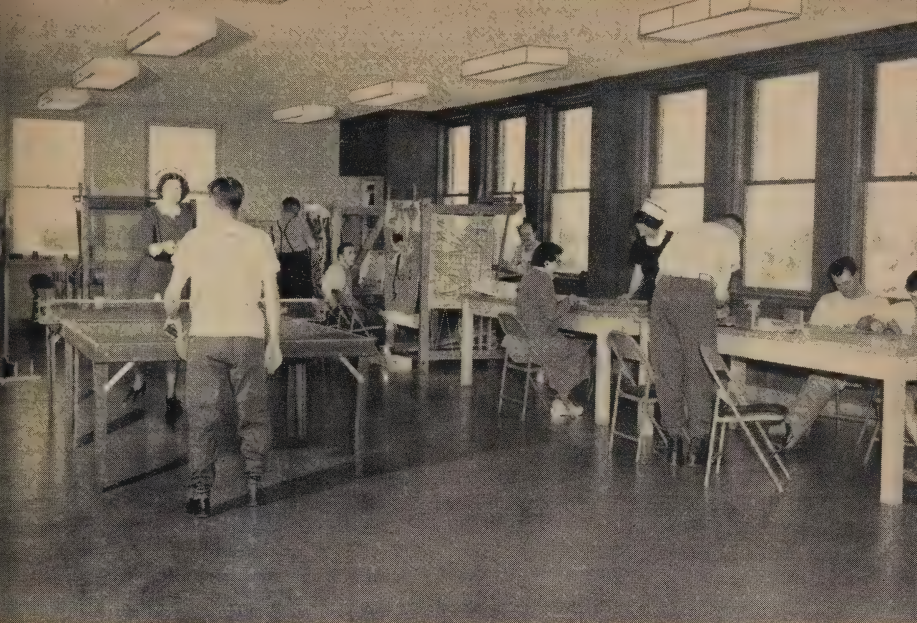
In all provinces in which mining is carried on, laws designed to create the safest possible working conditions in mines are in effect. Factories Acts seek to provide control over the working environment in a large part of industry. The construction, installation and operation of boilers and pressure vessels and of freight and passenger elevators, and electrical wiring and installation are regulated by special statutes. The safety standards established by all these laws are enforced by government inspectors.

Under a workmen's compensation law in each province a worker who is disabled by an industrial accident or a disease caused by the nature of his employment is entitled to compensation based on the extent of his disability and the amount of his earnings, subject, in the latter case, to a specified percentage rate (which may be 66⅔, 70 or 75, depending on the province) and an annual ceiling of \$4,000 or less. In fatal cases, widows, children or other dependants are awarded fixed monthly sums. Compensation and medical aid are payable from an accident fund to which employers under the Act are required to contribute and which provides a system of mutual insurance.

Five provinces have general hours-of-work laws. These either limit daily and weekly hours to eight and 48 or fewer, as in Alberta, British Columbia and Ontario, or require the payment of overtime rates after specified limits, as in Manitoba and Saskatchewan. In seven provinces working hours in some industries are regulated through industrial standards or similar laws under which the wages and hours reached by agreement in a representative section of the industry may be made law by Order in Council establishing minimum standards to which all employers and workers in the industry and area must conform.

Annual vacations with pay, usually one week but in one province two weeks, after a year of service, are provided by law in six provinces. A Board with minimum-wage-fixing powers has been set up in every province but Prince Edward Island and most industrial workers are protected by a minimum wage set by law, of particular importance where prevailing rates are low and where workers are unorganized. The orders in Nova Scotia and Ontario, however, affect women only; in New Brunswick, only one industry in which men are employed is covered; and in Newfoundland, a minimum wage has so far been applied to men only.

To promote collective bargaining and the settlement of disputes in undertakings within provincial jurisdiction, all provinces have labour relations Acts. Under these Acts an employer is required to bargain with a trade union which has been certified as bargaining agent for his employees for the conclusion of a collective agreement to establish conditions of employment binding on both parties for the duration of the agreement. Every agreement must contain a grievance procedure which may be invoked in case of any disagreement arising out of the terms of the agreement and a strike or lockout is forbidden while an agreement is in effect. If efforts to obtain an agreement are unsuccessful, Government conciliation services are available and a strike or lockout is prohibited until the procedure for settlement set out in the Act has been carried out.



Occupational therapy department of the Alberta Workmen's Compensation Board Clinic. Free medical aid is given in all provinces to workmen on compensation pay, and several provinces also operate rehabilitation centres providing special treatment where required for the complete recovery, both physical and psychological, of those incapacitated through accident in industry.

Apprenticeship laws in all provinces provide for the training of young people in designated skilled trades through a combination of on-the-job training and class instruction usually for a period of four years, during which time an apprentice receives a percentage of the journeyman's prevailing rate of pay, with progressive increases for each stage of training. Most provinces have agreements with the Federal Government for financial assistance in promoting apprenticeship.

In a few provinces legislation is in effect requiring tradesmen in certain designated trades to hold certificates of competency, without which they may not engage in the trade. Standards of proficiency are laid down to be attained upon examination by a person seeking a certificate.

Two new types of law enacted since 1951 are equal-pay laws in British Columbia, Ontario and Saskatchewan requiring women to be paid at the same rate as men when they do the same or comparable work in the same establishment, and fair employment practices laws in Manitoba and Ontario prohibiting discrimination in hiring and employment on grounds of race, creed, colour or national origin.

Federal Legislation.—Under a federal law, a system of unemployment insurance covers most workers in Canada and a nation-wide free employment service is available to all workers and employers (*see* p. 243). The Vocational Training Co-ordination Act authorizes the Minister of Labour to co-operate with the provinces in carrying out various types of vocational training (*see* p. 244). The Canada Shipping Act sets standards for the

welfare and safety of seamen. Two federal laws provide compensation for workers injured in their employment—the Merchant Seamen Compensation Act applying to seamen not covered by a provincial workmen's compensation law and the Government Employees Compensation Act applying to Federal Government employees.

Fair wages legislation requires contractors for federal public works and government equipment and supplies to pay wages generally accepted as current in the district. Hours must be limited to eight a day and 44 a week or, on supplies contracts, to those fixed by the custom of the trade in the district. All contracts must contain a clause prohibiting discrimination by the contractor in hiring and employment on grounds of race, national origin, colour or religion.

A Fair Employment Practices Act, applicable to industries under federal jurisdiction, went into force on July 1, 1953. It forbids an employer to discriminate against any person seeking employment or already in his employment because of his race, national origin, colour or religion and also forbids a trade union to discriminate on any of these grounds against any person with regard to membership.

The Industrial Relations and Disputes Investigation Act applies to industries within federal jurisdiction, i.e., navigation and shipping; inter-provincial railways, canals, telegraphs, steamship lines and ferries; inter-provincial and international aerodromes and air transport; radio broadcasting stations; and works declared to be for the general advantage of Canada.

The legislation provides for the right of free association of employees and employers, for the safeguarding of that right by prohibiting unfair labour practices, for the certification by the Canada Labour Relations Board of a trade union as bargaining agent for a group of employees, and for compulsory collective bargaining. A collective agreement must contain provision for the settlement, without recourse to strike action, of disputes arising out of its terms. If the parties are unable to negotiate an agreement, they may ask for the appointment of a Government conciliation officer and if, with his assistance, agreement cannot be reached on all points at issue, the Minister of Labour may appoint a three-member conciliation board. A strike or lockout may not legally take place until seven days have elapsed after the report of a board has been received by the Minister.

Labour Organization

Almost a third of the wage and salary workers in Canada's non-agricultural industries belong to unions. They are distributed proportionately across the country in approximately the same manner as the population generally. The heaviest proportion, almost two-thirds, of the members are in the central provinces of Ontario and Quebec. A further 12 p.c. of the union membership is to be found in the Prairie Provinces, 14 p.c. in British Columbia, and the other provinces of Canada account for the remaining 10 p.c.

Most of the unions to which the Canadian workers belong are affiliated to one of the three large central labour congresses—the Trades and Labour Congress of Canada (558,700 members), the Canadian Congress of Labour



Assembly line in a radio and television plant.

(352,500 members) and the Canadian and Catholic Confederation of Labour (104,500 members). In the first two congresses, most of the unions are international in their scope, having headquarters in the United States. There remains, however, one large group of workers belonging to unaffiliated unions which comprise the International Railway Brotherhoods, numbering approximately 42,000 members.

Collective bargaining is a basic function of all the unions. To-day, more than 6,000 agreements are in effect throughout the country. In total, they affect the working conditions of almost a third of the workers although the percentage of the workers covered varies by industrial groups. For example, in transportation and communications over 80 p.c. of the workers are covered by agreement and in mining 79 p.c. are covered, while other industries have lesser proportions of their working force covered. In manufacturing, 52 p.c. of the workers carry on many of their activities under the terms of a collective agreement, in forestry 57 p.c., construction 56 p.c., public utilities 52 p.c., service 11 p.c. and trade 7 p.c.

Unemployment Insurance

The Unemployment Insurance Act, 1940, which came into operation in July 1941, provides for a contributory scheme of unemployment insurance and a nation-wide free employment service. The Act is administered by an Unemployment Insurance Commission, consisting of a Chief Commissioner and two Commissioners—one appointed after consultation with organized labour and one after consultation with employers. Regional and local officers strategically located across the country handle applications for employment and claims for unemployment insurance benefit.

All persons employed under a contract of service are insured unless specifically excepted. Exceptions include such employments as agriculture, fishing, domestic service, school-teaching, and those employed on other than an hourly, daily, piece or mileage basis with annual earnings exceeding \$4,800. Persons employed on an hourly, daily, piece or mileage basis are insured regardless of their earnings level. Employers and their insured workers contribute equally, the contributions being based on the wages or salaries earned. The Federal Government adds one-fifth of the total employer-employee contributions and pays administration costs.

Rates of Contribution and Benefit under the Unemployment Insurance Act

Range of Earnings	Weekly Contributions		Rates of Benefit			
	Em- ployer	Em- ployed Person	Person Without a Dependant		Person with a Dependant	
			Daily	Weekly	Daily	Weekly
	cts.	cts.	\$	\$	\$	\$
While Earning in a Week—						
Less than \$ 9.00.....	18	18	0.70	4.20	0.80	4.80
\$ 9.00 to \$14.99.....	24	24	1.00	6.00	1.25	7.50
\$15.00 to \$20.99.....	30	30	1.45	8.70	2.00	12.00
\$21.00 to \$26.99.....	36	36	1.80	10.80	2.50	15.00
\$27.00 to \$33.99.....	42	42	2.15	12.90	3.00	18.00
\$34.00 to \$47.99.....	48	48	2.50	15.00	3.50	21.00
\$48.00 or more.....	54	54	2.85	17.10	4.00	24.00

Persons Insured under the Unemployment Insurance Act, by Industrial Group, Sex and Province, as at Apr. 1, 1952

Industrial Group	Males	Females	Province	Males	Females
	No.	No.		No.	No.
Agriculture.....	1,550	550	Newfoundland.....	43,290	6,430
Forestry and logging..	94,680	2,400	P. E. Island.....	6,470	2,030
Fishing, hunting and trapping.....	330	40	Nova Scotia.....	82,660	19,800
Mining, quarrying and oil wells.....	98,640	2,570	New Brunswick....	83,020	18,240
Manufacturing.....	863,180	260,100	Quebec.....	669,460	229,950
Construction.....	179,620	5,500	Ontario.....	908,210	327,910
Transportation, storage and communication.	299,340	46,510	Manitoba.....	135,860	46,360
Public-utility operation	30,310	3,860	Saskatchewan.....	54,200	20,770
Trade.....	297,300	188,640	Alberta.....	117,540	35,150
Finance, insurance and real estate.....	42,940	64,070	British Columbia..	216,750	66,140
Service.....	196,890	144,120			
Unspecified.....	21,970	6,460			
Unemployed.....	190,710	47,960			
Totals.....	2,317,460	772,780	Totals.....	2,317,460	772,780

During the calendar year 1952 there were 1,388,884 initial and renewal claims filed, 1,014,257 claimants were considered entitled to benefit on initial and on renewal claims, and benefit payments totalled \$114,200,316. Comparable figures for 1951 were 1,141,555 claims, 828,332 entitlements to benefit, and payments of \$72,769,192.



Repair assembly line at a jet engine plant. The modern factory, producing technical equipment to meet the demands of this scientific age or using complex methods for the efficient production of even the commonplace articles, requires the services of industrial engineers and highly skilled craftsmen.

During the first six months of 1953, a total of 836,026 initial and renewal claims were filed in local offices across Canada. Claimants considered entitled to benefit on initial and on renewal claims numbered 591,858 while benefit payments amounted to \$93,797,338.

Provision was made for the payment of supplementary benefit during the period Feb. 28 to Apr. 15, 1950, and in subsequent years during the period Jan. 1 to Apr. 15, to certain classes of claimants whose contributions would ordinarily be insufficient to establish benefit rights. Both employee and employer contributions were increased by one cent a day to provide these payments at rates equal to approximately 80 p.c. of the regular benefit rates. During the period for which supplementary benefit was payable in 1952, 83,518 persons were paid \$4,625,134.

The Unemployment Insurance Act was amended in 1953 to provide for the payment of benefit in respect of days of illness, injury, or quarantine occurring during a period on benefit. Under the terms of the amendment, days of incapacity suffered while on benefit, which hitherto would have been excluded from benefit, may now be compensated, provided that the claimant is otherwise entitled to benefit.

The National Employment Service. — The Unemployment Insurance Commission also operates the National Employment Service rendering service to all employers of Canada and to all workers regardless of their insurance

status. Unemployment insurance benefit is paid to eligible insured persons when it is certified that the Employment Service is unable to refer them to suitable work. The employment offices of the Commission, more than 200 in number, are linked in a national chain through a system that enables an employer to draw workers from distant areas when applicants are not available in his own locality, and which permits workers to seek employment in any part of Canada when there are no job vacancies near at hand.

Job-finding facilities are provided for persons in technical and managerial occupations and for applicants whose earning capacities have been impaired by physical or other handicaps. Facilities also exist for vocational guidance and counselling of young workers and other applicants entering the employment market for the first time. This activity is carried out in co-operation with school and educational authorities. In co-operation with the Department of Labour, the Employment Service has assisted in the establishment in employment in Canada of displaced persons and other immigrants, particularly from European countries.

In 1952 a total of 981,297 vacancies were filled by the Service for Canadian employers. Of these 762,743 were jobs for regular employees and 178,412 were casual placements: the number of persons transferred to jobs in other areas was 40,142.

Vocational Training

The Training Branch of the Department of Labour is responsible for the administration of the Vocational Training Co-ordination Act, 1942, which provides financial assistance to the provinces for various types of training agreed upon between the Federal Government and the provincial governments concerned.

Training programs and activities include apprenticeship training, the training of supervisors and foremen, trade training for unemployed persons who require such training to fit them for suitable employment, special programs for handicapped persons, and both general and specialized courses under the Youth Training Program for rural young people in agriculture, homecraft and handicrafts. Financial assistance is also given to nurses-in-training and to university students in the form of grants or loans.

The cost of classes specially organized for the training of workers in defence industries is shared on the basis of 75 p.c. from the Federal Government and 25 p.c. from the province in which the classes are conducted. The full cost of organizing and operating trade-training programs for members of the Armed Forces and special classes for the rehabilitation of veterans is borne by the Federal Government. The services of civilian teachers for classes conducted by the Armed Forces are also provided at federal expense.

The Federal Government is assisting in the organization and operation of vocational technical schools below university grade in each province for a ten-year period that started in 1945. The \$20,000,000 provided for this purpose is allocated according to the number of persons in each province in the age group 15 to 19 years. An additional \$10,000,000 was allotted to be used for capital expenditures for buildings and equipment before Mar. 31, 1952. Under the terms of agreement, the amount paid to a province must be matched from the provincial treasury. The total budget of the Training Branch for the year ended Mar. 31, 1954, was \$4,664,862.

Civilian Rehabilitation

A Civilian Rehabilitation Branch was established within the Department of Labour following a National Conference on the Rehabilitation of the Physically Handicapped held in February 1951. The work of this Branch is to co-ordinate rehabilitation activities of the Federal Government, the provincial governments and voluntary agencies directed towards making the latent productive possibilities of so-called 'disabled' persons available to the expanding manpower needs of the country. Working co-operatively with the Department of Labour in this matter are the Department of National Health and Welfare and the Department of Veterans Affairs. Federal funds were provided at the 1952-53 session of Parliament amounting to \$15,000 for each province on a matching basis to pay the salaries and expenses of a provincial rehabilitation co-ordinator and staff. The provincial staffs will seek to co-ordinate on a regional and local basis the efforts of all agencies, public and private, working with the disabled and to stimulate the interest of the medical profession, management, labour and the vocational and placement services in the potential value of such persons.

The Canadian Vocational Training Co-ordination Act, 1942, has been expanded so that training of any type required may be obtained for a disabled person provided such training would result in his rehabilitation. Health grants have been supplemented to fill gaps in existing services.

Government Annuities

The Canadian Government Annuities Act was passed in 1908 to authorize the issue of Government annuities, the purpose being to encourage and aid Canadians to make provision for old age. Any resident of Canada may purchase a Canadian Government annuity of up to \$1,200, payable for life only, or for life with a guarantee period of 5, 10, 15 or 20 years, or for the lives of joint annuitants with continuation to the survivor. Immediate annuities are purchased by a lump sum and are payable immediately. Deferred annuities, usually bought by employed persons, are purchased by payment of periodic premiums or a single premium, and are payable on retirement.

Immediate individual annuities may be purchased on a basis whereby the annuity reduces at age 70 by the amount of the Old Age Security payment, and deferred annuities may be similarly adjusted at maturity. This means that the annuitant can have a uniform income for life instead of an income that increases at age seventy. It means also that he can have more level income per dollar of annuity premium, because the annuity does not have to provide the entire income.

Annuities may be purchased under individual contracts or by members of groups under group contracts. A group contract is generally an agreement with an employer to implement a retirement plan approved by the Minister of Labour, the purchase money being, as a rule, derived jointly from the employer contributions and deductions from wages.

On Mar. 31, 1953, annuity income of \$28,218,012 was payable under 61,238 contracts. The number of deferred annuities being purchased by individuals privately was 101,800. The number of group contracts was 940 covering 137,537 active employees. The balance at credit of the Annuities Fund was \$736,540,927.



The railways still constitute by far the most important link in the country's transportation system.

Transportation Communications

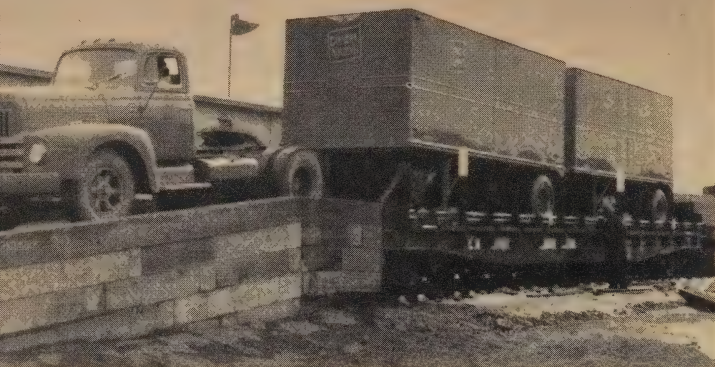
EXTENSIVE and efficient transportation and communication facilities are vitally necessary to Canada, perhaps more so than to most other countries. Canada extends more than 4,000 miles from east to west and its main topographic barriers run north and south, tending to separate one section of the country from another. The relatively small population of 14,781,000 is mainly concentrated in a narrow uneven strip along the southern border but, as Canada's vast resources come under development, the movement is gradually northward. Distance to markets is always great, whether goods are destined for domestic consumption or for export. The task of keeping this vast area—3,845,774 sq. miles—with its scattered population, closely integrated by rail, road, water and air transportation facilities and by radio, telegraph, telephone and post office communication facilities is fundamentally important to Canada's economic development and to the maintenance of national unity and identity.

•Transportation

The range of requirements for transportation services is so wide that no single medium can meet the demands of industry and the travelling public. The railways have served and will continue to serve as the principal facility of movement because only they have the capacity to supply cheap all-weather transportation in large volume over continental distances. But they are being faced to an increasing extent with selective competition from air, water and other land transport enterprises each of which is specialized by reason of advantages derived from its particular technique of operation.

The air lines, for example, are specialized in speed of movement which gives them a definite advantage in the transport of passenger and mail traffic. The air lines, too, are taking over the opening up of new areas for development, a job formerly carried on by railway and waterway facilities. However, speed, lower capital outlays in instituting service and ability to reach otherwise inaccessible areas have been instrumental in establishing the air lines in this field. To-day there are many isolated mining properties that have been prospected, proven, developed and maintained by air transport.

Water carriers are specialized in low-cost bulk movement of goods in which speed of service is not a critical factor. Most of the movement in this field is over the Great Lakes—St. Lawrence waterways. About 50 p.c. of the lake tonnage is engaged in carrying grain and the balance carries ore, coal, pulpwood, limestone and general cargo. Also a fleet of specialized tankers now carries crude petroleum from the Head of the Lakes to the refineries at Sarnia. The oil pipeline itself, a relatively new development in Canada, can now be considered as a means of transportation that has a definite advantage over other methods for the movement of petroleum and petroleum products where a very large volume is assured over a sufficient number of years to amortize the initial costs of construction.



Rail-highway service has been introduced by the railway companies to meet highway competition. Trailers can be loaded at the shipper's door, hauled by truck to ramps for loading on railway flatcars and, on arrival at destination, be delivered directly to consignee.

The roads have, of course, since the earliest days, played an unparalleled part in local passenger and freight movement. Their service has gradually extended until now they form great arteries for both short- and long-distance commercial and passenger traffic. The relatively low cost of operation of commercial road vehicles makes them particularly suitable for short-haul traffic moving in comparatively small volume.

Railways

There are two great railway systems in Canada, the Canadian National Railways, a government-owned system formed from the consolidation of several private and government lines in 1923, and the Canadian Pacific, a joint-stock corporation which began transcontinental operations in 1885. Each has a transcontinental line and a network of branch lines connecting the principal urban and rural centres of Canada. Each company constitutes an immense organization, serving the public in many fields of transportation and communication. The CNR is Canada's largest public utility operating, in addition to its rail network and the multifarious associated facilities, a fleet of coastal and ocean-going steamships, a nation-wide telegraph service providing efficient communication between all principal points of Canada with connections to all parts of the world, express facilities in Canada and abroad, a chain of hotels, a scheduled trans-Canada air service and a transatlantic air service. The CPR, in addition to its far-flung railway operations, also has a fleet of inland, coastal and ocean-going vessels, a north-south air-line system which is one of the world's greatest air freight carriers, a transpacific air-line service to the Orient and the Antipodes, an air service to Mexico and Peru, a chain of year-round and resort hotels, a cross-Canada telegraph network, a world-wide express service, and a truck and bus transport service.

These two transportation systems co-operate, under government supervision, in avoiding unnecessary duplication of railway service. They have long-standing agreements for the joint use of certain terminals, joint running rights, joint switching and other types of operation, use of each other's lines in cases of necessity, as well as joint ownership of certain property. The Board of Transport Commissioners controls freight and passenger rates as well as other matters relating to the construction, operation and safety of railways.

The combined length of line operated by these two companies, together with that owned by a number of smaller companies, was 58,291 miles in 1952. Gross operating revenues of all railways amounted to \$1,172,158,665 and operating expenses were \$1,057,186,304, compared with \$1,088,583,789 and \$977,577,062 in 1951. The 68,430,417,037 ton-miles of freight carried in 1952 was an increase of almost 4,130,000,000 ton-miles over 1951. Passengers carried numbered 30,167,145 compared with 30,995,604 in 1951 and employees averaged 214,143 as compared with 204,025.

Although actual track mileage has increased very little since the 1920's, great strides have been made in efficiency and speed of service. Since 1928, according to Canadian National Railways data, the mileage obtained per serviceable freight-car day increased from 33 to 46 and the daily mileage of serviceable freight locomotives rose from 107 to 156. The average carload increased from 25 to 31 tons, while the average freight train increased from 1,409 to 1,804 gross tons. Average freight train speed rose from 13 to over 16 miles per hour and gross ton-miles per train hour increased from 18,500 to 30,000.* Thus, Canadian railways now furnish 64.5 p.c. more freight transportation with 15.2 p.c. fewer locomotives and 14.0 p.c. fewer freight cars and, in terms of quality, the average speed has been raised by more than 25 p.c. This improvement was accompanied by a significant decline in fuel consumption and the use of relatively less manpower. The most important recent development in motive power was the introduction of the diesel locomotive; the total number in service at the end of 1952 was 763.

Urban Transport Services

Widespread changes in urban transport systems have been taking place in recent years. Electric street railways have been replaced or supplemented in many Canadian cities by motor-buses and trolley-buses and a large number of inter-urban electric lines have been abandoned. In most cases urban transportation systems are owned and operated by the municipalities.

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other safety de-
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train movements
in the Montreal
terminal of the
CNR.





The multi-million-dollar program for converting, modernizing and extending Vancouver's urban transit system, started in 1946, is nearing completion. Street railways will be entirely eliminated and the whole metropolitan area served by bus. The radio control room is the system's nerve centre.

In 1952, urban transit systems carried 1,359,490,000 passengers compared with 1,428,121,000 in 1951. Inter-urban services carried 99,150,868 passengers, 1,777,011 fewer than in the previous year. There has been a definite downward trend in traffic on transit facilities since 1949. A large proportion of the 2,340,000 private passenger vehicles in use, including automobiles and motorcycles, is competitive with the transit systems. The recent rapid development of suburban areas has had the effect of encouraging the purchase of private cars as well as increasing the operating costs of transit-company service. At the same time, the advance in fares made necessary mainly because of this suburban expansion has discouraged to some extent the previously profitable short-haul city traffic. General fare advances were responsible for the increase in revenue from \$158,805,912 in 1951 to \$165,861,945 in 1952, since patronage dropped 4.6 p.c. in the year.

Roads and Highways

Canada, at the end of 1951, had 173,232 miles of surfaced road and 395,542 miles of non-surfaced road. Of the surfaced road, 146,862 miles were gravel, 24,339 miles were bituminous-surfaced and 1,977 miles were concrete.

All roads, except those in the Territories, the national parks and Indian reserves, which are the responsibility of the Federal Government, are under the jurisdiction of provincial and municipal authorities. Of the almost \$334,600,000 spent in 1951 on new construction and maintenance of roads, bridges, ferries, etc., \$288,000,000 was supplied by the provincial governments



Toronto's new subway was placed in operation early in 1954—the first trial run was made in September 1953. Operation of eight-car trains, which can be accommodated at the 500-foot platforms provided at all subway stations, will carry 40,000 passengers per hour in each direction. The rapid-transit cars, built in the United Kingdom, are designed to carry passengers to their destinations with a maximum of speed, safety and comfort.



and the remainder by the federal and municipal governments. To appreciate fully the extent of usage of public roads and the high cost of maintenance, it must be realized that motor-vehicle registrations have more than doubled in the past 15 years, rising from 1,319,702 in 1937 to 3,155,824 in 1952. In addition to domestic traffic, Canadian highways carry millions of foreign tourist cars annually, more than 7,570,000 entries having been recorded in 1952. Again, apart from wear and tear by vehicles, the natural climatic conditions, in the form of snow, frost, floods, etc., play havoc with the roads.

The construction of a national coast-to-coast highway was sanctioned in December 1949, each participating province undertaking to construct and maintain that portion of the highway, other than on federal lands, within its borders. The general administration and co-ordination of the program is the responsibility of the Federal Government, which also shares with each province the cost of new construction to a maximum of 50 p.c. as well as part of the cost of existing highways taken into the plan.

All the provinces, except Quebec, had signed agreements with the Federal Government by the spring of 1952. The route, which is selected by the provinces, covers a distance of 4,993 miles (including Quebec). By the end of March 1953, 4,671 miles were considered passable for vehicular traffic, but only 2,094 miles were paved.

Motor-Vehicles

There were more motor-vehicles registered in Canada in 1952 than ever before. Of the 3,155,824 registrations—compared with 2,872,420 in 1951—2,296,435 were for passenger cars and 859,389 for commercial vehicles, including 766,458 trucks, 8,802 buses and 84,129 other vehicles. Registrations in the different provinces were as follows: Newfoundland, 23,630; Prince Edward Island, 18,717; Nova Scotia, 114,982; New Brunswick, 89,839; Quebec, 574,974; Ontario, 1,291,753; Manitoba, 187,881; Saskatchewan, 237,014; Alberta, 291,469; British Columbia, 321,482; and the Yukon and Northwest Territories, 4,083.

Provincial revenues from motor-vehicle registrations and licences reached a high of \$81,119,360 in 1952, and provincial gasoline tax revenues amounted to \$196,885,566. Taxable gasoline sold, most of which was consumed by motor-vehicles, amounted to 1,718,111,819 gal. in 1952.

The apparent supply of new passenger vehicles in 1952 amounted to 280,109 cars, 1,811 fewer than in 1951. The 1952 figure includes 245,443 cars made for sale in Canada plus 35,665 imports, less 999 re-exports of imported cars. In that year, 292,095 passenger cars valued at \$725,167,630 were sold, as well as 108,682 trucks and buses valued at \$277,448,211. Only 43 p.c. of the number and 29 p.c. of the value of these vehicles were financed by finance companies. The average financed value was \$1,695.

Motor-Carriers.—The movement of freight and passengers by motor-vehicle has assumed great importance in the national transportation picture during the past quarter-century. Since the end of World War II, particularly, motor-vehicle traffic has made giant strides forward with the improvement in equipment and the extension of hard-surfaced highways.

Motor-carrier statistics do not represent a complete coverage of the industry, which is made up predominantly of small businesses with hundreds

ROADS

A British Columbia highway.



◀ Log road through the hinterland.

An Ontario cloverleaf.



Near
Corner Brook,
Newfoundland



of licensees, each operating one or two trucks. Their bookkeeping is often sketchy and, at the same time, amalgamations and retirements are numerous, making a census difficult. In 1950, 3,951 carriers reported and, of these, 2,125 were small operators with revenues under \$8,000 for the year, most of them driver-owner operated. Six hundred and eighty-two freight carriers had revenues of between \$8,000 and \$19,999, 718 had revenues of \$20,000 or over, and there were 426 passenger carriers including urban and inter-urban systems not operating trams or trolley coaches.

Statistics of Motor-Carriers, 1947-50

Item	1947	1948	1949	1950
Investment in land, buildings, and equipment..... \$	91,403,016	105,126,021	124,984,523	141,213,577
Revenue..... \$	118,115,950	138,468,317	159,631,109	179,301,971
Equipment—				
Trucks..... No.	8,129	9,769	10,937	11,126
Tractors, semi-trailer..... “	2,608	2,920	3,197	3,640
Trailers..... “	1,806	1,755	1,825	2,496
Buses..... “	4,126	4,097	4,623	4,710
Passengers carried..... “	281,651,787	295,672,437	376,187,446 ¹	363,341,945
Freight, inter-city and rural.... ton	13,686,073	13,889,337	15,087,704	19,009,488

¹ Increase due largely to the inclusion of two companies formerly reported as electric railways.

Shipping

The importance of shipping in Canadian life may be realized when consideration is given to the fact that Canada is one of the world's major trading nations and that a large portion of the goods coming into and leaving the country do so by way of the sea. Also Canada possesses large navigable waterways extending inland which not only lead to the seaports but provide, as well, cheap service from one point to another along the way. The inland lakes and rivers are almost innumerable and there are vast outlying areas where water is still the only available means of transportation. Many settlements along both the east and west coasts depend entirely upon shipping for the transport of goods and passengers.

There is no record of all the freight carried by water in Canada, but there is a record of the number and tonnage of ships calling at all ports at which there are customs collectors and of cargoes of vessels trading between Canada and foreign ports. All waterways including canals and inland lakes and rivers are open on equal terms, except in the case of coastal trade, to the shipping of all countries of the world so that the commerce of Canada is not dependent entirely upon Canadian shipping. However, a large part of the inland and coastal traffic is carried in ships of Canadian registry.

During 1952, customs officials reported 113,505 vessel arrivals in foreign and coasting service as compared with 118,875 and 115,485 in 1951 and 1950, respectively. The total tonnage of all cargoes loaded and unloaded in foreign trade at all Canadian ports amounted to 71,321,121 tons, of which 28,634,318 tons or 40.1 p.c. was carried by vessels of Canadian registry.

As in former years, the bulk of foreign trade was with the United States which accounted for 42,501,859 tons, or 59.6 p.c. of the total. Canadian vessels

carried 62 p.c. of this water-borne commerce. In trade with other countries, however, Canadian shipping fared less well, carrying only 2,334,931 tons of a total of 28,819,262 tons. Most of this freight was carried by vessels of the United Kingdom, United States, Panama, Norway and Sweden.

Commodities imported amounted to 38,756,206 tons, an advance of 1·3 p.c. over the 1951 total. This increase, mainly owing to larger quantities of bauxite, petroleum and products, iron ore, wheat and cement, was distributed among the three geographical regions as follows: Atlantic was down 1·8 p.c., Great Lakes was up 2·1 p.c., and Pacific up 6·8 p.c.

Exports rose to 32,564,915 tons, an increase of 5,285,116 tons or 19·4 p.c. over the 1951 total of 27,279,799 tons. Commodities that were exported in larger quantities, with the 1951 totals in parentheses, include: wheat, 9,077,612 tons (6,620,022); oats, 1,016,983 tons (668,562); barley, 2,194,360 tons (1,002,246); iron ore, 3,946,098 tons (3,382,146); flour, 617,007 tons (342,583); as well as logs, newsprint and aluminum.

The gross investment in vessels, docks, wharves, warehouses, land and buildings, and equipment reported by the water transportation industry in 1951 amounted to \$252,362,000. Gross income received from this investment was \$250,237,000. The industry employed 20,149 workers and paid out \$43,947,000 in salaries and wages, an average of \$2,181 which did not include the value of meals and lodging estimated at \$5,566,000.

Lighthouses and other marine danger signals, a pilotage service and radio signal and direction-finding stations, as well as federal legislation and regulations, maintain a high standard of safety for navigation in and around Canada.

Harbours

Overseas exports and imports comprise a large proportion of Canada's international trade and the long routes over which these commodities travel—the overland routes and the sea lanes—are linked together by a number of deepsea harbours. Having in mind the importance of deepsea ports as inherent and vital units in the national system of transportation, and for purposes of ensuring greater efficiency and economy in operation, improvement and strengthening of engineering services as well as uniformity in regulations and tariffs, eight of these harbours have been placed under a permanent central board for administration as national ports in accordance with national policy and with the assistance of national credit. The National Harbours Board is an agency of the Crown, responsible to Parliament through the Minister of Transport. Seven other harbours are administered by commissions that include municipal as well as federal appointees and, in addition, there are about 300 public harbours, all of which come under the supervision of the Department of Transport.

The harbours administered by the National Harbours Board are Halifax and Saint John on the Atlantic seaboard; Chicoutimi on the Saguenay River and Quebec, Three Rivers and Montreal on the St. Lawrence River in Quebec; Churchill on Hudson Bay and Vancouver on the Pacific Coast. Assets administered by the Board represent, at cost, an outlay of \$236,000,000, and facilities include wharves, vessel berths, transit sheds, grain elevators, cold-storage warehouses, terminal railways, shore and floating equipment,

Halifax Harbour, land-locked, well sheltered and free of ice the year round, is one of the finest natural harbours in the world.



Saint John Harbour, also open to navigation the year round, is situated on the north shore of the Bay of Fundy, 60 miles from the Atlantic Ocean.



Quebec Harbour is wide and deep and has an eight-month navigation season. On a transatlantic trip to or from Quebec, two days are spent in the shelter of the St. Lawrence River and Gulf.



Montreal Harbour, man-made and open to navigation eight months of the year, is located in a commanding position where ocean and inland navigation meet, a thousand miles from the Atlantic Ocean. It serves the most industrialized area of Canada.

Three Rivers Harbour is situated on the St. Lawrence River, midway between Montreal and Quebec and at the head of tide-water. It also serves a highly industrialized area.



Vancouver Harbour, from which trade routes extend across the Pacific Ocean and through the Panama Canal to the Atlantic Ocean, is a natural harbour, free of heavy winds and ice and safe for the largest ships afloat.





In 1952, 26,322 freighters passed through Canadian canals, 22,500 of which were of Canadian registration. The canals of Canada are open to the vessels and traffic of all nations on equal terms.

workshops, electric-power and water-supply systems and industrial sites. The extent and variety of facilities at each port are, of course, influenced by the nature and volume of the traffic passing through that port. In general, the objective is to make the national harbours as self-sustaining as possible, first, by business-like management and, second, by charges for the use of facilities and services that are fair by accepted standards. It is the policy of the Board to provide the necessary major facilities for public use but to refrain from performing certain services that can be provided adequately by private interests.

The freight loaded and unloaded at the larger ports from sea-going vessels frequently constitutes a surprisingly small part of the total freight handled. Usually, the volume coming in or going out by coasting vessels is larger. It is not possible to obtain statistics of freight handled in all ports and harbours, but the water-borne cargo handled at the eight principal ports in 1951 was as follows:—

	<u>Tons</u>		<u>Tons</u>
Halifax.....	3,878,275	Montreal.....	14,917,040
Saint John.....	2,357,565	Churchill.....	228,797
Chicoutimi.....	267,265	Vancouver.....	11,157,900
Quebec.....	2,812,950		
Three Rivers.....	3,194,014	TOTAL.....	<u>38,813,806</u>

Canals

The canals of Canada may be divided into two classes: the main route canals on the St. Lawrence River and the Great Lakes, including the Lachine,

Soulanges, Cornwall, Farran Point, Rapide Plat and Galop Canals on the St. Lawrence River, the Welland Ship Canal between Lakes Ontario and Erie, the Sault Ste. Marie Canal between Lakes Huron and Superior; and subsidiary canals or branches including the St. Peters Canal between Bras d'Or Lakes and the Atlantic Ocean, Nova Scotia; the St. Ours and Chambly Canals on the Richelieu River, Quebec; the Ste. Anne, Carillon and Grenville

The International rapids section of the St. Lawrence River, a stretch 46 miles long, is now served by a 14-foot canal on the Canadian side. Proposed seaway plans would provide a shipway 27 feet deep on the United States side, retain the present channel and include the development of a large block of hydro power on the Canadian side.



Canals on the Ottawa River; the Rideau Canal between the Ottawa River and Lake Ontario; and the Trent and Murray Canals between Lake Ontario and Georgian Bay in Ontario.

The importance of this transportation system as a highway of commerce is evidenced by the fact that, during 1952, 31,354,139 tons of freight passed through the canals in 26,322 vessels. In addition, thousands of pleasure craft locked through; the number of passengers on vessels locking at Sault Ste. Marie was 97,452.

The St. Lawrence waterway with its ship channel and series of canals is the world's greatest inland navigation system, providing as it does a great navigable artery from the Atlantic Ocean to the western end of Lake Superior, a distance of more than 2,000 miles. The development of this waterway as a highway of international trade has involved a series of engineering projects in keeping with the increasing demands of traffic and the safety of larger and faster ships. Throughout its course, 31 locks overcome a rise in level of 600 feet. At present the canals on the St. Lawrence River have a navigable depth of up to 14 feet but between the lakes the navigable depth is 25 feet, permitting the passage of large lake freighters from the Upper Lakes to Prescott on the St. Lawrence. Plans are under way for deepening the St. Lawrence channel to permit these freighters passage to the Atlantic and to allow large sea-going vessels to ply the Great Lakes.

Civil Aviation

The control of civil aviation in Canada is under the jurisdiction of the Federal Government. The Department of Transport deals with the technical side, which includes matters of registration of aircraft, licensing of airmen, establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation and the safe operation of aircraft. Certain statutory functions with respect to the issue of licences to operate commercial air services and the subsequent economic regulation of commercial air services in accordance with the dictates of the public interest are assigned to the Air Transport Board.

Air transport services are grouped into two broad classes: (1) non-scheduled services and (2) scheduled services.

Non-Scheduled Services.—Non-scheduled services include specific point-to-point services not on regular time schedules; charter and contract services; and specialty services. Such services provide access to sections of Canada that are inaccessible by other means of transportation and also act as feeders to the scheduled airlines. The use of aircraft has become vital to the exploration and development of the remote parts of Canada and has made many projects in otherwise inaccessible areas economically sound and physically possible. For example, in connection with the Kitimat aluminum development in British Columbia, the helicopter is playing an important role in the transportation of equipment and supplies. During the year ended Mar. 31, 1953, non-scheduled operators flew 14,629,250 revenue miles, carried 260,379 passengers, 85,013,169 lb. of goods and 801,214 lb. of mail.

Besides transportation, the non-scheduled operations provide a variety of services which make an important contribution to the discovery, conservation and development of the natural resources and to the expansion of the



CA scheduled flights now embrace nearly 50 communities in Canada, the United States, the United Kingdom, France, Germany, Bermuda and the Caribbean.

CA scheduled domestic services are concentrated mainly in Western and Northern Canada; overseas services cover Vancouver to Australia, New Zealand and the Orient, as well as Mexico and Peru.



Independent domestic air lines operate scheduled, non-scheduled, flying-training and specialty commercial services.





TCA reservation offices are equipped to deal with increasing air-line traffic.

Canadian economy. Aerial photography, which has been highly developed, is applied to geological surveys, mapping, timber-estimating and operation-planning, as well as to the planning of oil pipelines, roads and many large construction projects. An outstanding contribution by aircraft has been made in the field of exploration and prospecting for minerals. Aircraft have long been employed for the protection of forests by the use of fire-spotting aerial patrols, by aiding in fire-fighting operations and by the dusting of forest areas against destructive insects. In the agricultural sphere, aircraft are used for crop-dusting and spraying to control insect pests, and for seeding and frost control. In connection with the protection of wildlife resources, aircraft are used to patrol wide areas for the detection of poachers and violators of fish and game regulations, and for the stocking of lakes and streams with fingerlings. Among the many other services performed by means of aircraft are: patrolling power lines and pipelines, police activities, missionary work, aerial ambulances and advertising.

At Mar. 31, 1953, there were 167 commercial operators licensed to conduct scheduled, non-scheduled and specialty services, and there were 105 flying schools and flying clubs licensed for training activities.

Scheduled Services.—*Trans-Canada Air Lines.*—During the year ended Mar. 31, 1953, Trans-Canada Air Lines provided air transportation for 1,169,334 passengers, a record volume of traffic in the company's 16-year history. The total revenue mileage flown increased by 11 p.c. over 1951-52. Growth of air transportation reflected the general expansion of the Canadian economy, and the air line met the increased public demand for air travel by increasing flight frequency in existing routes rather than by geographical expansion of operations. Trans-Canada Air Lines is providing service for passenger, mail and commodity traffic over nation-wide routes totalling 9,916 miles, and overseas routes totalling 8,999 miles, touching at England, Scotland, Ireland, France, Germany, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad.

In the domestic scheduled service, 1,116,115 revenue-passengers, 4,275,249 ton-miles of mail, and 5,603,157 ton-miles of commodity traffic were carried in 1952-53, as compared with 956,622 passengers, 4,094,521 ton-miles of mail, and 4,056,791 ton-miles of commodity traffic in the previous year.

Overseas scheduled flights during 1952-53 accommodated 53,219 passengers, 635,587 ton-miles of mail, and 1,272,752 ton-miles of commodity transport, compared with 45,878 passengers, 542,156 ton-miles of mail, and 2,027,502 ton-miles of commodity transport in 1951-52.

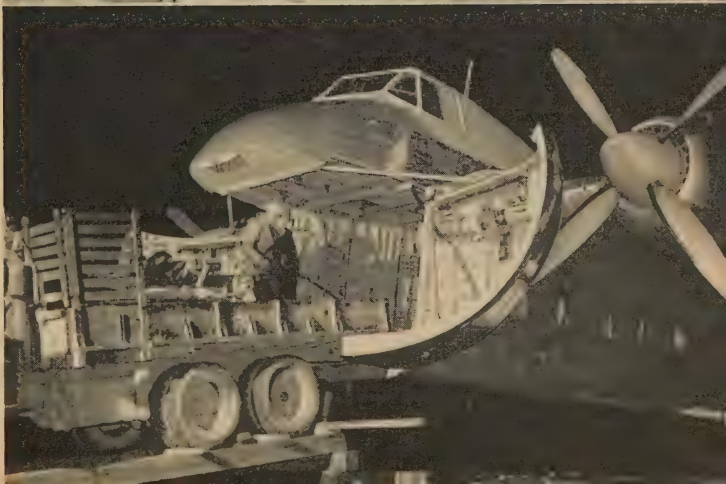
Canadian Pacific Air Lines Limited.—CPA operates scheduled domestic services with a total of 9,525 route miles together with overseas services from Vancouver to Australia, New Zealand and the Orient. On Oct. 24, 1953, a regular passenger service between Vancouver, Mexico City and Lima, Peru, was started.

The 13 scheduled domestic services operated by CPA supply regular transport between the larger cities and the far northern terminals and intermediate points. The overseas services comprise a fortnightly service from Vancouver to Australia and New Zealand via San Francisco, Honolulu, Canton Islands and Fiji, and a weekly service to Tokyo and Hong Kong via the Great Circle. Schedule of the new service calls for a weekly ten-hour non-stop flight

son aircraft on sea
ice at Chesterfield,
N.W.T. A regular
charter service is
operated to that
settlement from
Churchill, Man.



ristol freighters
are in operation in
northwestern Cana-
da, carrying heavy
mining equipment
and supplies.

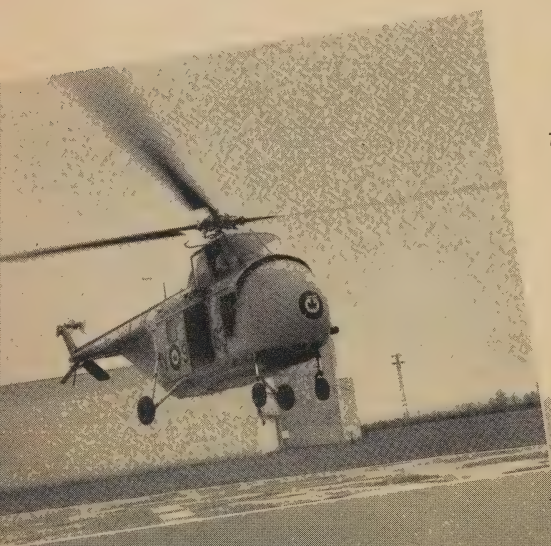


from Vancouver to Mexico City and a 10½-hour flight from Mexico City to Lima, Peru, and thus provides the only four-engined aircraft service south from Mexico City to Lima.

Domestic operations during the year ended Mar. 31, 1953, with the preceding year's figures in parentheses, were: 5,645,400 (5,142,561) revenue-miles, 74,250,056 (60,705,788) passenger-miles, 1,242,229 (1,053,197) cargo ton-miles and 464,183 (388,555) mail ton-miles flown, and 180,911 (167,112) revenue-passengers carried.

Overseas operations during the same period, with preceding year's figures in parentheses, were: 965,321 (890,876) revenue-miles, 19,789,339 (22,372,027) revenue passenger-miles, 253,251 (135,454) cargo ton-miles and 153,663 (90,987) mail ton-miles flown, and 3,833 (3,763) revenue-passengers carried. In addition, CPA carried 9,577 passengers during 1952-53 and 8,787 passengers during 1951-52 on non-scheduled overseas flights.

Maritime Central Airways Limited operates scheduled services between Prince Edward Island, New Brunswick and Nova Scotia, and between the Magdalen Islands and Prince Edward Island; *Queen Charlotte Airlines*



The versatile helicopter has definitely established itself as Canada's new pack horse. The first heliport to be licensed is operated at the Kitimat development in northern British Columbia and the second (shown here) at Montreal, Que.



Limited operates scheduled services connecting Vancouver and Victoria with points north in the Pacific coastal area; and *Quebecair Incorporated* operates a scheduled service on the north shore of the St. Lawrence River.

Private Flying.—At Mar. 31, 1953, there were 1,045 private aircraft registered in Canada. Many of these are used by ranchers, farmers, oil men and commercial firms as part of their business equipment.

International Agreements.—Canada's position in the field of aviation as well as its geographical location has necessitated co-operation with other nations engaged in international civil aviation. Canada played a major role in the establishment of the International Civil Aviation Organization, now with permanent headquarters at Montreal, and through the activities of that Organization has benefited by the joint knowledge and experience of all Member States in all the technical and economic aspects of civil aviation.

In recent years Canada has been a signatory to agreements concerning civil aviation with Australia, Belgium, Denmark, France, Ireland, The Netherlands, New Zealand, Norway, Portugal, Sweden, United Kingdom and the United States. On the North Atlantic, Canada was given extended rights for traffic from Ireland, Iceland and the Azores, and also rights in Brussels and landing rights in France.

On the Caribbean route, rights have been obtained in Florida from the United States and for points of call in British territories. In the Pacific, agreements provide for calls at Honolulu, Fiji and Hong Kong. In the trans-border field, TCA has the right to operate from Montreal to New York, and from Montreal and Toronto to the Bahamas and Jamaica with stops at Tampa or St. Petersburg, Florida. Operating certificates have been issued to 14 Commonwealth and foreign scheduled services flying into Canada.

• Communications

Telegraphs and Cables

In 1952 there were seven telegraph systems operating in Canada, four in conjunction with the railways, two operated by the Federal Government, and one small system owned and operated independently. One United States company uses lines crossing Canadian territory.

On Apr. 1, 1950, a Crown corporation, the Canadian Overseas Telecommunication Corporation, took over the operations and external telecommunications assets in Canada of the Halifax and Bermudas Cable Company, the Pacific Cable Board, Cable and Wireless, Ltd., and the Canadian Marconi Company. This Corporation was sanctioned by Parliament in 1949 to establish public ownership and consolidation of the radio and cable systems in line with the recommendations of the Commonwealth Telegraphs Conference held in Australia in 1942. The Corporation operates 23,826 nautical miles of cable and a transoceanic wireless system. In addition to the Crown corporation, two private companies operate cable and wireless systems. In all there are 35 cables between Canada and the United States, England, Ireland, the Azores, Australia, New Zealand, St. Pierre and Miquelon, and Bermuda. Two cables link North Sydney and Canso, N.S., three cables North Sydney and Newfoundland, and two cables Canso and Newfoundland.



In May 1953 the Bell Telephone Company of Canada opened a microwave radio-relay system for network television service and long-distance telephone calling. Fifteen stations link Montreal, Ottawa and Toronto and connect with United States networks via Buffalo, N.Y.

These systems have 432,276 miles of telegraph wire in Canada, 5,305 miles outside of Canada, and 62,932 nautical miles of submarine cable between Canada and other countries. In 1952, 21,614,196 telegrams and 1,934,433 cablegrams, excluding messages between foreign countries, were handled.

Telephones

At the end of 1951, Canada had 3,113,766 telephones or 22 per 100 population. The estimated number of telephone calls on all systems in Canada reached a peak of 5,273,644,419 in 1951, representing an average of 1,694 calls per telephone or 376 calls per head of population. Long-distance calls, too, attained a new record at 127,406,419, and calls to other countries were generally higher. Canadians are currently within telephone reach of 87 countries and connections are possible with nearly 96 p.c. of all telephones in the world.

Of the 2,904 telephone systems operating in 1951, no fewer than 2,255 were co-operatively owned systems serving the rural districts in most provinces. The largest of the 448 stock companies were the Bell Telephone Company and the British Columbia Telephone Company; the former, with its subsidiaries, operating in Ontario, Quebec and New Brunswick, reported 62 p.c. of all telephones in Canada. The provincial systems of the Prairie Provinces reported 11 p.c. of the total. Provincial and federal systems serve outlying districts where no commercial service is available.

Recently, the operations of the telephone companies have grown impressively and this progress has been paralleled by some remarkable technical advances. Standard carrier systems now transmit 16 separate conversations on open wire and 12 on cable and special equipment has been installed

to permit the use of cable carrier for distances of 20 to 200 miles. Most long-distance calls are now put through while the caller holds the receiver. Expansion is also taking place in operator toll-dialing, whereby a long-distance operator in one city may dial the actual number required in another city belonging to the same inter-toll dialing group, instead of passing the call to an operator. Mobile telephone service is coming into extensive use and is provided in several Canadian cities.

Canadian communications history was made in May 1953 with the opening of a microwave radio-relay system for network television service and long-distance telephone calling. The new "skyway", built and operated by the Bell Telephone Company of Canada, links the Canadian Broadcasting Corporation's television stations at Toronto, Ottawa and Montreal and also connects those stations with United States networks via Buffalo, N.Y. An extension to Quebec city is under construction. Telephone calls can travel over the system at the same time as TV programs. Thus, it provides many new long-distance voiceways between Toronto, Ottawa and Montreal.

Canada possesses an intricate, efficient telephone network which permits the average Canadian to make more use of telephone service than a citizen of almost any other country in the world. Capital investment in telephone systems amounted to \$909,581,399 in 1951 and employees, numbering 47,387, received \$117,677,652 in salaries and wages.

Radio

There were 162 standard broadcast band stations operating in Canada on Nov. 1, 1953, of which 20 were Canadian Broadcasting Corporation stations and 142 were privately owned stations. In addition there were 37 short-wave stations, 29 of which were CBC and eight were privately owned, together with five CBC and 29 privately owned frequency-modulation stations.

Rehearsing for the Saturday night CBC program, "Trans-Canada Hit Parade", which reviews the hits in popular music for the Canadian audience. About thirty talented people participate in the show.



Canadian Broadcasting Corporation.—The publicly owned Canadian Broadcasting Corporation is operated as a national public service; privately owned stations provide local community service, and many are affiliated with the CBC networks. As constituted under the Canadian Broadcasting Act, the CBC is responsible to Parliament through a Minister of the Crown. From time to time, the work of the CBC is reviewed by a special Committee of the House of Commons. The last such committee, reporting in May 1953, noted the expansion and improvement of sound broadcasting and endorsed the development of the national television service in which both the CBC and privately owned stations play their part.

CBC policy is determined by a Board of 11 Governors who act as trustees of the national interest in broadcasting. The Governors, representing the main geographic divisions of Canada and various facets of Canadian life, are appointed by the Governor General in Council for three-year terms. The Chairman is appointed for a ten-year term on a full-time basis. Day-to-day operations and administration of the system are the responsibility of a General Manager and an Assistant General Manager. The CBC's income in sound broadcasting is derived from a current annual grant of \$6,250,000 together with revenue from a 15-p.c. excise tax on radio, television and phonograph sets and tubes, and revenue from some commercial programs. Present television operations are financed through the same excise tax and commercial programs.

Radio Broadcasting Facilities and Program Service.—The CBC operates 64 transmitters for its National Service and two for its International Service. Twenty are standard band AM stations, eight of which are of 50,000 watts to give good service to rural areas; five are frequency-modulation transmitters; four are shortwave transmitters (used on 11 frequencies) to reach remote areas; and 35 are low-power "repeater" transmitters operating automatically with the network lines and serving sparsely settled areas. CBC network service reaches more than 98 p.c. of the radio homes in Canada. Program service extends from St. John's, Nfld., in the east to Vancouver Island in the west. The Trans-Canada and Dominion networks serve English-speaking listeners from coast to coast, and the French network serves French-speaking listeners in Quebec and Ontario and in parts of Western Canada. Ninety-four of the privately owned stations in Canada function as network outlets.

Canada's system of broadcasting is designed to overcome the problems posed by great distances, a scattered population, two official languages, and seven of the world's 24 time zones. Programs are planned regionally as well as nationally on CBC networks not only to provide as complete a service as possible during the broadcasting hours of each region but also to fulfil the regional needs and tastes of the listening public in various parts of the country. National programs are planned with a view to uniting the cultural tastes and interests of Canadians and to providing good radio entertainment from each of the main program production centres.

Through CBC facilities, schools across Canada are provided with at least 30 minutes daily of broadcast programs specifically planned by departments of education to meet classroom requirements. In addition, national

school broadcasts, prepared with the advice of the departments of education and teachers and financed by the CBC, are heard Fridays. More than a million children in 12,000 schools across Canada hear these school broadcasts regularly. Canada's agricultural population is served by the most complete service of farm broadcasts in the world, including the weekly *National Farm Radio Forum*, which numbers about 1,270 organized groups in Canada. A comparable program, *Citizens' Forum*, provides a national platform for discussion of topics of current interest. Programs of interest to women are scheduled for afternoon listening; there are special children's programs for out-of-school listening; and time is allotted regularly for religious programs. Free-time political broadcasts arranged with the parties concerned are heard both nationally and regionally. For listeners with discriminating tastes in programs, the special *CBC Wednesday Night* program offers a full evening of the finest in drama, music, talks, poetry, recitals and performances by such groups as the CBC Symphony and the CBC Opera Company.

Television.—The present development of a national Canadian television service evolved from the recommendations of the Report of the Massey Commission (the Royal Commission on National Development in the Arts, Letters and Sciences) which, among other things, recommended: (a) that direction and control of television broadcasting in Canada continue to be vested in the Canadian Broadcasting Corporation; (b) that the Canadian Broadcasting Corporation proceed with plans for the production of television programs in English and French and for national coverage by kinescope recordings or by any other practicable means; and (c) that no private television broadcasting stations be licensed until the Canadian Broadcasting Corporation has available national television programs and that all private stations be required to serve as outlets for national programs.

After these recommendations had been endorsed by a subsequent Parliamentary Committee, plans were laid by the CBC for the purchase of equipment and the selection and training of personnel.

C's "Kindergarten of the Air" is heard each week by across Canada and is used both in school kindergarten classrooms and at home by parents of pre-school-age children.





Hockey, Canada's national sport, has a large radio and television audience. CBC television covers a game of the Montreal Canadiens.

Canadian television came to Canada officially in September 1952, with the opening at Montreal and Toronto of the CBC's first television stations, CBFT and CBLT. Both stations began programming about three hours each evening. By January 1953, the program schedule at both centres had grown to 30 hours a week, and live programs from United States networks joined the Canadian schedule with the completion of the microwave link between Buffalo and Toronto. By the end of May 1953, the microwave link between Toronto, Ottawa and Montreal was ready for service and in June the first Canadian TV network connecting these points became a reality. At that time, CBOT at Ottawa, the third CBC television station, began operation with the network and swelled CBC-TV coverage to include one-third of Canada's population.

By Nov. 1, 1953, work had begun on three more CBC television stations—at Vancouver, Winnipeg and Halifax—and 14 private organizations had been authorized to build and operate private stations—at Sydney, N.S., Saint John, N.B., Rimouski and Quebec, Que., Sudbury, Hamilton, London, Kingston, Kitchener and Windsor, Ont., Regina and Saskatoon, Sask., Calgary and Edmonton, Alta.; one of these, CKSO-TV at Sudbury, had commenced operations. All Canadian television stations will serve as outlets for the national TV system in addition to producing their own programs. They will receive about 10½ hours a week of CBC programs on kinescope recordings until such time as all stations can be joined by the microwave relay network. Upon completion of the seven CBC and 14 privately owned stations now authorized, the national television service will reach three-quarters of Canada's population. This goal is expected to be attained in the next two years.

In its first year on the air, CBC television has developed a program schedule covering the wide range of entertainment achieved in its sound broadcasting. These programs have included weekly drama series, leading sports events such as NHL hockey and the Grey Cup football final, special children's series, news, variety, discussions, and many other types. Most Canadian productions have been "live" from studios at Toronto or Montreal,

and some programs have been fed directly from United States networks via the microwave relay. A wide selection of film features has also been offered. In its first year of service, CBC television realized several notable "firsts" including the first TV production of a George Bernard Shaw play (*Candida*) permitted in North America and the first presentation in North America of films of the Coronation.

The basic production facilities at Toronto and Montreal are similar, with more modest facilities being installed for limited production at Ottawa. The CBLT and CBFT facilities comprise, in addition to the transmitters, one large and one medium-sized studio equipped with cameras; lighting and control facilities; film projection units; master control rooms; dressing rooms; paint, carpentry and costume shops; space for scenery and properties storage—everything essential to the production, monitoring and recording of live programs and for presenting film programs. A three-camera mobile unit for special events is stationed at Montreal and Toronto, with a third expected for Ottawa early in 1954.

The development of Canadian television is being accompanied by a great expansion in the electronics industry. In 1950, there were 30,000 television sets in use in the country; in 1951 the figure had climbed to 70,000 and in 1952 to 200,000. The estimate at the close of 1953 was 450,000 sets. Television receiver sales now total about \$7,000,000 per month in Canada.

CBC International Service.—The International Service of the Canadian Broadcasting Corporation was established in February 1945. Since then its operations have been expanded steadily and it now carries Canada's voice around the world. The Service is owned by the people of Canada and is controlled by the people through Parliament. It is administered by Canada's

The CBC TV studio at Toronto as it appeared on the night of the General Election, Aug. 10, 1953. In this photograph we share a bird's-eye view of the studio with the control-room operators.



public radio system, the Canadian Broadcasting Corporation, and financed wholly by a parliamentary appropriation. The main program and production headquarters of the CBC International Service are in the Radio Canada Building at Montreal. The two powerful 50,000-watt transmitters at Sackville, N.B., are linked with the studios at Montreal by a land line 600 miles long.

Altogether the shortwave broadcasts of the International Service are listened to in some 30 countries. The programs are broadcast in 16 languages: English, French, German, Dutch, Danish, Swedish, Norwegian, Finnish, Italian, Spanish, Portuguese, Czech, Slovak, Polish, Russian and Ukrainian. Countries that have poor reception because of geographical reasons, like Austria and Greece, receive transcribed programs. The staffs of the various language sections prepare the programs, which are then edited, produced in the studios and sent out over the air. The English language section has the additional responsibility of providing the Canadian Forces abroad with daily broadcasts.

The International Service is 'on the air' more than 16 hours a day during which time it tries to give listeners in other lands Canadian views on international affairs and a picture of Canadian life, with special reference to the cultural, social and economic development. In response to its broadcasts the Service has received more than 200,000 letters from listeners in all parts of the world. Each letter is answered individually. When requested, specific information about Canada is provided in the form of official booklets, maps of Canada and pictures. In addition, the Service publishes a monthly program schedule in the form of an attractive, well-illustrated booklet, which is sent to listeners free of charge. Every month more than 120,000 copies of the schedule are mailed to listeners in Europe and more than 25,000 copies to listeners in Latin America.

Postal Service

Postal service in Canada is provided from Newfoundland to the west coast of Vancouver Island, and from Pelee Island, Ont., the most southerly point of Canada, to settlements and missions far within the Arctic Circle.

Various facilities are used in the transporting of mails—railways, aircraft, motor-vehicles and inland and coastal steamers—but the principal means is the railway mail service which operates on about 40,000 miles of track and covers an annual track mileage exceeding 48,000,000. There are about 1,332 railway mail clerks employed in sorting and exchanging mails while *en route* in postal railway cars and in steamers serving the coastal settlements of Newfoundland. The far northerly points receive mail by steamer, air-stage service and aircraft courtesy flights.

Canada's air-mail system provides several flights daily and constitutes a great air artery from St. John's, Nfld., to Victoria, B.C., intersected with branch and connecting lines radiating to every section of the country and linking up with the United States air-mail system. All first-class domestic mail up to and including one ounce in weight is carried by air between one Canadian point and another, whenever delivery is thus facilitated. There are, altogether, approximately 35,500 miles of air-mail and air-stage routes in Canada.



The handling and transmission of Canadian mail is a large and complicated business, involving the maintenance of a wide variety of services—post offices and railway, air, land and water transportation facilities.

Post offices are established for the transaction of all kinds of postal business at places where the population warrants, and letter-carrier delivery is given in 127 cities and towns. An extensive organization distributes mail to rural districts: 5,240 rural mail routes are in operation covering 122,344 miles of road and serving 410,506 rural mail boxes, and the majority of these receive daily service. Rural mail routes are generally circular in pattern and average 23 miles in length. Some 4,700 side services are in operation to transport mail between post offices, railway stations, steamer wharves and airports, while 3,050 stage services operate to service post offices not situated on railway lines. In cities and larger towns there are approximately 500 services conveying mails to and from sub post offices, postal stations, and railway stations, collecting mails from street letter boxes and delivering parcel post. In all, approximately 13,450 land mail service couriers travel in the neighbourhood of 50,000,000 miles annually. Land mail services are performed under a contract system, the contracts being awarded to the lowest tenderer who must provide all the requisite equipment.

An estimated 2,985,000,000 items of mail are delivered annually, requiring the utilization of the most up-to-date mechanical handling devices. There were, in all, 12,254 post offices and 11,288 money-order offices in operation across the country on Mar. 31, 1953. For the year ended on that date, postage paid by means of postage stamps amounted to \$67,182,548 and the gross postal revenue was \$129,388,364. Post Office Savings Banks in operation in all parts of the country had combined deposits of \$39,322,229.



The retail store is the final link in the distribution chain between producer and consumer. Effective presentation of goods has an important influence on the demands of the customer, who, in the long run, sets the pace for the manufacturer. Retail sales in Canada reached a peak of \$12,028,000,000 in 1952.

Domestic Trade

A review of domestic trade in all its aspects would require the coverage of a great number of activities dealing with the flow of goods in the country through all the channels of distribution. It would also require the inclusion of transportation of various kinds at all levels and the following of the distribution of goods through manufacturers' warehouses, wholesale houses and retail stores with all attendant agencies and services. A still broader concept of domestic trade would include professional care, education and a large assortment of service trades. Such detail is not possible in the limited space available and only certain phases of the merchandising field are therefore covered here. The data include summary results of the 1951 Census of Distribution as well as some current statistics. This information is followed by brief data on prices which are an integral part of wholesale and retail sales.

•Merchandising

1951 Census of Distribution

The 1951 Census figures reflected the effects of two major, yet opposite, influences on distribution—the full effect of World War II, with its resultant curtailment on expansion and the closing down of many retail establishments, and the post-war boom with its expansion impact on numerous segments of the retail market. Comparable figures for 1941 and 1951, illustrating the influence of these opposing factors, are given in the following tables.

Summary Statistics of Retail Stores, by Province, 1941 and 1951

Province or Territory	Population		Stores		Sales	
	1941	1951	1941	1951	1941	1951
	No.	No.	No.	No.	\$'000	\$'000
Newfoundland....	...	361,416	...	4,090	...	159,804.9
Prince Edward Island.....	95,047	98,429	863	972	15,935.5	54,117.8
Nova Scotia.....	577,962	642,584	6,790	7,176	165,033.7	393,880.1
New Brunswick...	457,401	515,697	4,988	5,430	101,843.1	285,814.2
Quebec.....	3,331,882	4,055,681	39,712	43,572	818,671.1	2,436,913.1
Ontario.....	3,787,655	4,597,542	47,055	50,119	1,406,976.7	4,116,372.5
Manitoba.....	729,744	776,541	7,219	7,432	210,833.4	609,283.8
Saskatchewan....	895,992	831,728	10,088	9,585	186,885.8	653,815.7
Alberta.....	796,169	939,501	9,222	9,943	221,071.4	854,783.1
British Columbia..	817,861	1,165,210	11,253	13,151	309,572.6	1,082,636.6
Yukon and N.W.T.	16,942	25,100	141	156	4,078.4	11,857.9
Canada.....	11,506,655	14,009,429	137,331	151,626	3,440,901.7	10,659,279.7

Summary Statistics of Retail Stores, by Province, 1941 and 1951—concluded

Province or Territory	Paid Employees ¹		Payroll		Stocks on Hand Dec. 31 (at Cost)	
	Min.	Max.				
	1951	1951	1941	1951	1941	1951
	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	7,070	9,911	...	11,280.6	...	30,558.1
Prince Edward Island.....	2,196	2,811	1,135.2	3,417.7	3,495.1	8,227.7
Nova Scotia.....	17,844	23,560	12,959.2	29,877.5	23,775.9	52,029.9
New Brunswick...	12,916	17,513	8,334.7	23,525.5	17,208.8	44,596.9
Quebec.....	108,734	138,791	72,379.6	206,776.1	138,806.9	351,115.1
Ontario.....	181,563	239,053	134,730.3	369,300.9	206,163.0	523,016.2
Manitoba.....	27,798	39,971	20,215.5	57,664.6	30,019.5	84,769.0
Saskatchewan.....	20,782	28,705	14,550.3	41,656.3	37,261.5	108,282.4
Alberta.....	30,501	41,008	18,816.6	63,749.9	37,511.0	124,227.3
British Columbia...	45,067	62,139	30,964.0	101,896.7	44,958.0	147,772.6
Yukon and N.W.T.	323	429	352.5	896.2	1,664.2	3,528.1
Canada.....	454,794	603,891	314,437.9	910,042.0	540,863.9	1,478,123.3

¹ Figures for 1941 are not available.

Number of Stores and Sales for Selected Kinds of Business, 1941 and 1951

NOTE.—1951 figures include Newfoundland.

Kind of Business	Stores		Sales		P.C. Change 1941-51
	1941	1951	1941	1951	
	No.	No.	\$'000	\$'000	
Food and beverage group.....	58,491	65,134	1,062,000.9	3,232,312.4	+204.4
Candy, nut and confectionery stores.....	11,583	8,996	67,259.9	137,016.9	+103.7
Grocery stores, without fresh meat.....	21,884	22,239	266,027.5	622,117.4	+133.9
Combination stores (grocery stores with fresh meat).....	6,101	12,152	301,351.0	1,276,804.4	+323.7
Meat and fish markets.....	4,793	3,320	83,252.2	181,317.9	+117.8
Restaurants.....	8,821	13,837	131,181.0	452,270.6	+244.8
General merchandise group..	15,711	16,153	740,718.8	1,795,673.7	+142.4
Department stores and mail order offices or houses of department stores.....	504	649	377,806.1	910,128.9	+140.9
General stores.....	11,917	10,457	214,747.8	519,818.6	+142.1
Variety stores.....	1,085	1,391	85,177.0	195,624.1	+129.7
Automotive group.....	16,867	18,380	594,719.5	2,550,588.5	+328.9
Automobile dealers.....	2,835	5,168	370,956.2	1,990,251.3	+436.5
Garages.....	3,156	3,694	47,561.4	135,697.4	+185.3
Filling stations.....	10,130	8,394	157,558.1	338,249.4	+114.7
Apparel and accessories group	12,601	16,283	295,211.6	783,322.2	+165.3
Men's and boy's clothing and clothing and furnishings stores.....	3,485	3,971	79,873.3	201,688.6	+152.5
Women's apparel and acces- sories stores.....	5,508	6,357	97,522.1	259,030.8	+165.6
Family clothing stores.....	1,934	2,686	73,778.9	192,962.3	+161.5
Shoe stores.....	1,674	2,242	44,037.3	111,488.1	+153.2



Business and industry meet the public at the Pacific National Exhibition, Vancouver. The industrial fair to-day is the showplace of science, agriculture, industry and the arts. The exchange of ideas that flourishes at these annual free markets is of inestimable value to the progress of the area and the country.

This super shopping centre in Toronto has 40 stores and free supervised parking for 2,000 cars, floodlights for night shopping, outdoor music, public rest rooms, supervised children's playgrounds and a community bulletin board.





A St. John's store is proud of its display of products manufactured exclusively in Newfoundland from the skins of seals caught off the shores of the island.

*Number of Stores and Sales for Selected Kinds of Business,
1941 and 1951—concluded*

Kind of Business	Stores		Sales		
	1941	1951	1941	1951	P.C. Change 1941-51
	No.	No.	\$'000	\$'000	
Building materials and hardware group.....	5,801	7,887	174,203.4	673,980.0	+286.9
Lumber and building materials dealers.....	1,611	2,193	79,786.0	357,611.3	+348.2
Hardware stores.....	3,020	3,872	73,143.1	227,395.3	+210.9
Furniture, household appliances, radio and home furnishings group.....	3,498	5,221	118,356.9	394,470.6	+233.3
Furniture stores.....	1,337	1,750	64,057.0	146,793.4	+129.2
Household appliance and radio stores.....	1,648	2,789	45,894.6	210,237.9	+358.1
Second-hand group.....	1,740	1,244	11,070.5	23,139.4	+109.0
Other retail stores group.....	22,622	21,324	444,620.1	1,205,792.9	+171.2
Drug stores (with and without soda fountain).....	3,956	4,325	101,027.4	248,448.8	+145.9
Tobacco stores and stands....	4,239	2,330	43,227.4	78,290.5	+ 81.1
Jewellery stores.....	1,692	2,610	38,453.8	104,566.5	+171.9
Totals, All Stores.....	137,331	151,626	3,440,901.7	10,659,279.7	+209.8

Some of the salient aspects brought to light by the 1951 Census are:—

- The number of retail establishments increased 10 p.c. in the period 1941-51 from 137,331 to 151,626. British Columbia led the increase with 17 p.c. and Saskatchewan was the only province showing a decrease.

he essentiality of the truck in the distribution of goods and thus in the daily life of every individual is symbolized in this picture of Toronto's St. Lawrence Market.



- The total dollar sales volume of business in Canada's retail establishments increased 200 p.c. from \$3,400,000,000 in 1941 to \$10,600,000,000 in 1951. All provinces showed increases, with Alberta's sales of \$854,000,000 representing almost a four-fold increase over 1941. Provinces with sales of over \$1,000,000,000 in 1951 were Ontario, Quebec and, for the first time, British Columbia.
- The maximum number of persons employed in Canada's retail stores exceeded 600,000 in 1951 and the payroll was \$910,000,000.
- The automotive group establishment increase of 10 p.c. was overshadowed by a 300-p.c. increase in sales which, at \$2,600,000,000, constituted 25 p.c. of total retail trade. Included in this group are motor-vehicle dealers, filling stations, garages, etc.
- In 1951, the food and beverage group, at \$3,000,000,000, trebled 1941 sales. This group includes taverns and government liquor stores as well as food stores and restaurants.
- The automotive and food and beverage groups together accounted for 54 p.c. of total retail sales in 1951; in 1941 they accounted for 48 p.c.
- The building materials and hardware group, together with the furniture, radio and home appliances group, both of which were closely linked to the accelerated activity in new home construction since the end of the War, showed significant increases in numbers of establishments as well as in sales volume.
- Most establishments handling non-durables, such as clothing, showed more moderate increases.
- The number of general stores, possibly reflecting a shift in shopping habits, declined by 1,410 over the ten-year period.

Intercensal Surveys

While the decennial Census of Distribution produces complete coverage of statistics on retail and wholesale trade, certain surveys are continued between the census years. Some of these surveys are conducted on a sample

basis and use the census results as a base from which to project trends and obtain reliable estimates. Other continuing surveys are made on a complete coverage basis once a year.

Retail Trade.—One of the most important channels of domestic trade is the retail store, through which most goods are dispersed to the ultimate consumer. This phase of distribution is measured statistically on a monthly basis with annual estimates compiled for intercensal years. Estimates for 1952 and 1953 place retail trade at \$11,575,500,000 and \$12,027,600,000, respectively. Sales of durable goods in 1953—motor-vehicles, furniture, appliances, etc.—showed the greatest advance over the previous year. Saskatchewan was most prominent among the provinces in rate of increase over 1952, with a gain of 7 p.c.

Retail Store Sales, by Selected Types of Business and by Province, 1951-53

Type of Business and Province	Sales			Percentage Change 1952-53
	1951	1952	1953	
Type of Business	\$'000,000	\$'000,000	\$'000,000	
Grocery and combination stores.....	1,898.9	2,039.5	2,095.0	+2.7
Meat stores.....	175.5	164.4	167.7	+2.0
General stores.....	519.8	546.3	536.7	-1.8
Department stores.....	910.1	996.0	1,024.7	+2.9
Variety stores.....	195.6	213.7	222.2	+4.0
Motor-vehicle dealers.....	1,891.1	2,119.2	2,286.0	+7.9
Garages and filling stations.....	473.9	503.7	534.5	+6.1
Men's clothing stores.....	201.7	209.4	206.4	-1.4
Family clothing stores.....	193.0	203.2	205.9	+1.3
Women's clothing stores.....	192.8	203.8	209.3	+2.7
Shoe stores.....	111.5	116.4	118.6	+1.9
Hardware stores.....	227.4	235.0	246.6	+4.9
Lumber and building-material dealers.....	357.6	380.1	414.0	+8.9
Furniture stores.....	146.8	177.7	184.2	+3.7
Appliance and radio stores.....	210.2	254.2	274.3	+7.9
Restaurants.....	433.7	457.1	449.6	-1.6
Fuel dealers.....	232.4	234.5	222.6	-5.1
Drug stores.....	248.5	267.1	273.1	+2.2
All other stores.....	2,038.8	2,254.3	2,356.2	+4.5
Totals.....	10,659.3	11,575.5	12,027.6	+3.9
Province				
Atlantic Provinces.....	893.6	978.0	1,005.8	+2.8
Quebec.....	2,436.9	2,662.9	2,763.5	+3.8
Ontario.....	4,116.4	4,387.9	4,569.4	+4.1
Manitoba.....	609.3	645.2	671.8	+4.1
Saskatchewan.....	653.8	762.4	815.4	+7.0
Alberta.....	854.8	944.1	978.4	+3.6
British Columbia ¹	1,094.5	1,194.9	1,223.4	+2.4

¹ Includes the Yukon and Northwest Territories.

Sales of retail chain stores amounted to \$1,929,750,000 in 1952, which was 17 p.c. of the total estimated retail trade. Firms considered as "chains" are those operating four or more retail outlets under the same ownership and carrying on the same or related kinds of business. There were 458 business firms in this category in 1952, operating an average number of 7,660 stores.

Chain Store Statistics, 1930, 1941 and 1946-52

NOTE.—Includes Newfoundland from 1951.

Year	Stores	Retail Sales	Salaries to Store Employees	Stocks on Hand, End of Year		Accounts Outstanding, End of Year
				Store	Warehouse	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1930.....	8,097	487,336	50,405	60,457	..	..
1941.....	7,622	639,210	57,777	68,619	20,976	38,376
1946.....	6,559	1,014,847	77,474	85,345	37,436	19,643
1947.....	6,716	1,177,323	91,266	105,041	43,546	31,493
1948.....	6,821	1,335,735	107,450	119,132	46,330	40,378
1949.....	6,839	1,420,081	115,903	123,696	46,755	50,001
1950.....	7,155	1,559,693	129,334	159,083	60,501	65,001
1951.....	7,585	1,726,354	144,792	178,799	59,504	53,169
1952.....	7,660	1,929,750	154,980	176,699	56,821	79,517

It is estimated that 360,021 new passenger automobiles were sold in 1953, considerably more than in 1952, although the percentage of cars financed was lower as compared with that of the previous year.

New Passenger-Car Sales and Financing, 1951-53

Province	1951			1952			1953		
	Sold		Financed	Sold		Financed	Sold		Financed
	No.	No.		No.	No.		No.	No.	
Atlantic Provinces.	19,176	5,841	30.5	21,529	9,737	45.2	26,595	12,000	45.1
Quebec.....	52,786	18,080	34.3	58,756	27,507	46.8	70,889	32,615	46.0
Ontario.....	121,479	31,489	25.9	124,624	48,874	39.2	157,058	58,029	36.9
Manitoba.....	16,668	4,777	28.7	16,351	6,570	40.2	19,278	7,419	38.5
Saskatchewan..	18,013	5,768	32.0	19,488	7,952	40.8	23,909	8,616	36.0
Alberta.....	22,448	8,670	38.6	25,174	13,251	52.6	29,463	15,855	53.8
British Columbia..	25,116	7,101	28.3	26,132	10,885	41.7	32,829	12,918	39.3
Totals.....	275,686	81,726	29.6	292,054	124,776	42.7	360,021	147,452	41.0

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Wholesale Trade.—The only information on wholesale sales other than the 1951 Census data is in the form of monthly indexes based on the results of a sample survey of firms in nine wholesale trades. The volume of sales for the composite of these nine trades was 4 p.c. higher in 1952 than in 1951.

Indexes of Wholesale Sales, by Types of Business, 1941 and 1946-52

(1935-39 = 100)

(Exclusive of the Yukon and Northwest Territories and Newfoundland)

Type of Business	1941	1946	1947	1948	1949	1950	1951	1952	P.C. Change 1951-52
Automotive equipment.	157.8	334.8	369.8	379.9	397.6	429.2	509.3	561.9	+10.1
Drugs.....	145.2	245.2	254.6	281.8	305.5	313.8	348.4	371.8	+7.1
Clothing.....	142.8	229.3	255.4	265.1	248.2	248.0	253.0	263.3	+4.2
Footwear.....	141.6	279.4	300.8	286.8	281.9	282.9	328.8	349.2	+6.3
Dry goods.....	141.8	197.5	244.5	264.7	240.4	246.0	249.3	243.1	-2.5
Fruits and vegetables...	131.2	291.2	274.7	237.2	263.0	271.6	290.9	329.8	+14.5
Groceries.....	134.7	208.9	244.2	254.0	257.0	276.4	305.0	315.4	+3.7
Hardware.....	165.2	277.4	325.0	359.7	374.9	404.5	455.5	446.9	-1.9
Tobacco and confection- ery.....	150.6	296.9	317.1	354.8	372.8	381.1	411.9	429.1	+4.8
Composite Index.....	142.0	244.0	272.0	283.2	291.3	307.2	338.6	362.2	+4.4

Services.—The 5,157 hotels reported for Canada in 1952 included year-round as well as seasonal resort establishments. Sixty-seven per cent of all Canadian hotels were licensed to sell some form of alcoholic beverage and in those establishments the major portion of the revenue (57 p.c.) was derived from that source. The revenue of unlicensed hotels was mainly from room rentals. The percentage of room occupancy was higher in the larger hotels than in the smaller ones. Those with more than 500 rooms reported a rate of 79 p.c. occupancy and those with fewer than ten rooms reported only 29 p.c. occupancy. The hotel business provided employment for an average of 58,348 persons during 1952 and paid them \$88,747,000 for their services.

Hotels, Rooms and Receipts, by Province, 1952, with Totals for 1950 and 1951

Province and Year	Hotels	Rooms	Receipts			
			Rooms	Meals	Beer, Wine and Liquor	Total
	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	27	779	560	841	620	2,283
Prince Edward Island..	24	648	291	242	—	581
Nova Scotia.....	146	3,924	2,620	2,490	267	5,928
New Brunswick.....	103	3,214	2,003	1,411	—	3,819
Quebec.....	1,540	39,741	22,582	18,121	45,665	93,679
Ontario.....	1,489	46,459	29,304	25,263	59,290	125,488
Manitoba.....	285	7,985	4,324	2,789	18,606	27,691
Saskatchewan.....	530	12,015	5,512	3,263	23,773	34,790
Alberta.....	449	14,206	9,724	6,015	29,951	49,857
British Columbia.....	564	20,644	12,959	6,834	23,557	47,820
Totals, 1952.....	5,157	149,615	89,879	67,269	201,759	391,936
Totals, 1951.....	5,092	146,441	83,322	63,440	180,642	357,282
Totals, 1950.....	5,169	146,353	75,842	58,586	162,815	322,390



Broadway Bridge and the Bessborough Hotel, Saskatoon, Sask.

In 1952 Canadians spent \$118,434,481 on motion-picture entertainment, including \$12,975,298 in amusement taxes. This was for showings in regular and drive-in theatres, community enterprises and halls serviced by itinerant operators, and works out to a per capita expenditure of \$8.21, a new high for this type of entertainment. Ontario topped the other provinces with a per capita expenditure of \$10.06 and Newfoundland, with \$3.90, had the lowest average. (See also p. 94.)

Motion-Picture Theatre Statistics, 1952

Item	Regular Theatres	Drive-in Theatres	Com- munity Enter- prises	Halls Serviced by Itinerant Operators	Total
Theatres and halls.....No.	1,843	104	657	812	3,416
Receipts (excluding taxes) \$	98,851,349	4,409,426	1,702,824	495,584	105,459,183
Amusement taxes.....\$	12,308,148	540,390	96,314	30,446	12,975,298
Paid admissions.....No.	247,732,717	8,379,586	5,363,564	1,487,420	262,963,287

•Co-operative Associations

During the year ended July 31, 1952, Canadian co-operative associations reported the largest volume of business ever transacted by such societies in this country. Total business done by the 2,616 associations reporting to the Department of Agriculture amounted to \$1,219,253,850.

Volume of business done by marketing co-operatives amounted to \$928,000,000; the purchasing co-operatives reported sales of \$248,000,000; fishermen's co-operatives reported a volume of \$25,000,000 and the revenue of service co-operatives amounted to \$8,125,000. All types of co-operatives except the service co-operatives reported substantial increases over the figures reported for 1950-51.

Co-operative Marketing.—The total sales value of farm products marketed by co-operatives in Canada during the crop year ended July 31, 1952, amounted to \$927,589,172. This figure was about \$158,000,000 greater than that for the previous year and the increase was shared by all major agricultural products. The proportion of farm products marketed commercially by co-operatives was estimated to be 35.7 p.c. Co-operative sales of farm products per farm averaged \$1,340 in 1952. A similar calculation made in 1941 showed the average co-operative sales per farm to be \$293.

Co-operative Purchasing.—Sales of farm supplies, household and consumer goods by co-operatives in 1951-52 amounted to \$248,050,761, an increase of \$38,000,000 over the figure for 1950-51. The main increases were reported by co-operatives handling feed, fertilizers and machinery.

Co-operative Wholesaling.—Eleven co-operative wholesales did a total volume of business of \$167,500,000 in 1951-52. Of this figure \$95,500,000 represented sales of agricultural products and the balance consisted of sales of supplies to 1,710 local co-operative societies. There is at least one co-operative wholesale in each province except Newfoundland. Nova Scotia has two and an interprovincial co-operative at Winnipeg serves more than one province.

Co-operative Services.—Service-type co-operatives operate in the housing, electrification, medical care, transportation and in other fields. In 1951-52, 339 such co-operatives had a membership of 195,027, and revenue for the year amounted to \$6,359,080.

Fishermen's Co-operatives.—Co-operative marketing of fish is carried on in every province except Alberta. In 1951-52, 83 fish co-operatives reported a total volume of business amounting to \$24,600,000, including fish and fish products marketed, general merchandise, fishermen's supplies, bait and gear. It is estimated that fishermen's co-operatives handle about 10 p.c. of the value of all commercial fish sold.

Credit Unions.—There were 3,335 credit unions in Canada in 1951-52 with a membership of 1,250,000 and total assets of \$425,000,000. Loans made during the year to members amounted to \$155,000,000.

• Prices

Wholesale Prices.—The general wholesale price index* measures commodity price changes mainly at production and primary distribution levels. It includes nearly 600 price series, including price quotations ranging from those paid by primary producers for basic raw materials to prices paid by retailers for finished articles.

* Detailed information concerning the construction of this index is given in DBS Reference Paper No. 24, *Wholesale Price Indexes, 1913-1950*.



Canadian Pacific Railway yards at Winnipeg, Man. Winnipeg is the hub of transcontinental railway traffic, all lines converging on that centre and fanning out to the east and to the west.

The upward movement in wholesale prices, which commenced with the sharp deterioration in the international situation in June 1950, moved the wholesale index to a new post-war peak level of 243.7 by July 1951. Since that date prices have fallen almost steadily to reach 219.0 by December 1953. Declines were general, although primary and secondary items recorded the sharpest losses. Certain commodities moved against the trend, notably cured meats, newsprint and window glass. Strength in the Canadian dollar was a contributing factor to lower prices for export and import items.

Canadian farm product prices at terminal markets moved substantially lower during 1952 and 1953. From a post-war peak of 277.1 reached in July 1951, the composite index dropped to 206.8 by December 1953. As in previous years, lower indexes in the second half of 1953 reflected a drop in the initial prices to western producers for grains at the commencement of the crop year on Aug. 1. Live-stock prices were considerably lower in 1952 and 1953 although some stability followed the establishment of support prices for beef and pork. These support prices were set in April 1952 following the United States embargo against Canadian live stock and meat owing to the outbreak of foot-and-mouth disease. The removal of the embargo on Mar. 2, 1953, did little to alleviate the situation.

Monthly Index Numbers of General Wholesale Prices and Wholesale Prices of Canadian Farm Products, 1952 and 1953

(1935-39 = 100)

NOTE.—General wholesale price indexes for 1953 and Canadian farm products indexes subsequent to July 1952 are subject to revision.

Year and Month	General Wholesale Prices	Canadian Farm Products	Year and Month	General Wholesale Prices	Canadian Farm Products
1939			November.....	221.5	232.9
August.....	95.6	84.3	December.....	221.1	232.4
1952			1953		
January.....	236.7	271.5	January.....	221.5	234.0
February.....	232.5	259.6	February.....	221.1	229.9
March.....	230.7	256.7	March.....	221.9	228.1
April.....	226.8	253.8	April.....	219.5	221.7
May.....	224.6	252.7	May.....	220.0	224.2
June.....	226.3	257.9	June.....	221.5	226.6
July.....	225.4	253.5	July.....	221.0	226.5
August.....	223.7	246.3	August.....	222.2	213.6
September.....	221.9	235.6	September.....	221.2	208.9
October.....	220.2	231.4	October.....	220.4	208.5
			November.....	218.7	204.9
			December.....	219.0	206.8

Consumer Prices.—In October 1952, the Dominion Bureau of Statistics issued a new series of Canadian index numbers of retail prices entitled the "Consumer Price Index".* This index, which is on the base 1949 = 100, replaces the cost-of-living index as the official measurement of retail prices of goods and services. It is an entirely new series constructed from post-war expenditure patterns and is designed to measure the average percentage

* Detailed information concerning the construction of the index is given in DBS special report, *The Consumer Price Index, January 1949-August 1952*.

change in retail prices of goods and services bought by a large and representative group of Canadian urban families. The index is not affected by changes in standards of living.

The new index is based on goods and services purchased during the year ended Aug. 31, 1948, by 1,517 families, representing all Canadian urban families with the following characteristics: (1) living in 27 Canadian cities with over 30,000 population (1951 Census); (2) ranging in size from two adults to two adults with four children; (3) with annual incomes during the survey year ranging from \$1,650 to \$4,050.

To measure the influence of price change on the cost of goods and services purchased by such families, the consumer price index contains 224 items and no attempt has been made to differentiate between "luxuries" and "necessities".

From a peak of 118.2 on Jan. 2, 1952, the consumer price index fell rapidly during the first five months of 1952, fluctuating narrowly for the remainder of the year. Further price decreases early in 1953 moved the index down to 114.4 on May 1, 1953. Thereafter, the trend was reversed and by Oct. 1, 1953, the index stood at 116.7. Falling prices in the latter part of the year brought the index back to 115.8 on Dec. 1, the same level as a year earlier. The shelter component advanced steadily during this period to reach a peak of 125.1 on Dec. 1, 1953. Other groups followed a pattern similar to that of the total index, receding or stabilizing during 1952 and the early months of 1953 and making slight gains thereafter.

Consumer Price Index Numbers, 1949-53

(Av. 1949 = 100)

Year and Month	Food	Shelter	Clothing	Household Operation	Other Commodities and Services	Total
1949.....	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	102.6	106.2	99.7	102.4	103.1	102.9
1951.....	117.0	114.4	109.8	113.1	111.5	113.7
1952.....	116.8	120.2	111.8	116.2	116.0	116.5
1953.....	112.6	123.6	110.1	117.0	115.8	115.5
1952 January.....	122.4	118.3	114.9	116.4	115.5	118.2
February.....	120.8	118.3	113.5	116.3	115.8	117.6
March.....	117.6	119.1	112.9	116.9	116.4	116.9
April.....	117.2	119.4	112.5	116.8	116.6	116.8
May.....	115.5	119.6	112.3	116.2	115.6	115.9
June.....	115.7	120.4	111.8	115.9	115.7	116.0
July.....	116.0	120.6	111.7	115.9	115.6	116.1
August.....	115.7	120.6	111.6	115.8	115.8	116.0
September.....	115.8	121.2	110.9	116.0	115.8	116.1
October.....	115.1	121.5	109.9	116.2	116.4	116.0
November.....	115.7	121.4	109.8	115.9	116.6	116.1
December.....	114.1	122.2	109.7	116.1	116.6	115.8
1953 January.....	113.5	122.3	109.7	116.5	116.7	115.7
February.....	112.7	122.5	109.6	116.6	116.7	115.5
March.....	111.6	122.5	109.7	116.7	115.2	114.8
April.....	110.9	122.7	109.7	116.9	115.0	114.6
May.....	110.1	122.9	110.1	116.6	115.1	114.4
June.....	111.4	123.6	110.1	116.6	115.1	114.9
July.....	112.7	123.9	110.3	117.0	115.2	115.4
August.....	112.8	124.1	110.4	117.2	115.8	115.7
September.....	114.0	124.2	110.4	117.4	115.9	116.2
October.....	115.5	124.5	110.3	117.5	116.0	116.7
November.....	113.4	125.0	110.3	117.4	116.3	116.2
December.....	112.1	125.2	110.2	117.4	116.3	115.8



Foreign Trade

CANADA's foreign trade set new records in 1952 and 1953. In value it was greater than in any other peacetime year, although average export and import prices were lower than in 1951. The increase in volume was even more substantial than in value. Imports advanced especially rapidly in the first half of 1953, and the moderate export balance achieved on trade in 1952 was replaced by a moderate import balance in 1953. A substantial inflow of investment capital offset the deficit on merchandise trade in Canada's international accounts.

Exports, Imports and Total Trade of Canada, 1946-53

(Millions of Dollars)

Period	Exports			Imports	Total Trade	Balance of Trade
	Domestic Produce	Foreign Produce	Total			
Calendar Year—						
1946.....	2,312.2	27.0	2,339.2	1,864.6	4,203.7	+474.6
1947.....	2,774.9	36.9	2,811.8	2,573.9	5,385.7	+237.8
1948.....	3,075.4	34.6	3,110.0	2,636.9	5,747.0	+473.1
1949.....	2,993.0	29.5	3,022.5	2,761.2	5,783.7	+261.2
1950.....	3,118.4	38.7	3,157.1	3,174.3	6,331.3	- 17.2
1951.....	3,914.5	48.9	3,963.4	4,084.9	8,048.2	-121.5
1952.....	4,301.1	54.9	4,356.0	4,030.5	8,386.4	+325.5
January - September—						
1952.....	3,150.6	40.4	3,190.9	2,945.5	6,136.5	+245.4
1953.....	3,067.5	41.2	3,108.7	3,334.7	6,443.4	-226.1

The value of world trade (expressed in U.S. dollars) was some 3 p.c. lower in 1952 than in 1951, and statistics for the first half of 1953 indicate that the 1952 level of trade was maintained in 1953. There was a change in the trend of world trade in this period. During the first three quarters of 1952 there was a decline caused chiefly by sharply lower prices for some commodities than had prevailed in 1951. The recovery occurring in the last quarter of that year was the result mainly of an increase in the quantity of goods shipped between trading countries. The trade of Russia, mainland China, and most other communist countries is not available and is therefore omitted from the statistics on which these observations are based.

In most years since the War, Canada has conducted a larger foreign trade than any country other than the United States and the United Kingdom. This was the case in 1952 and, according to currently available information, in 1953. France and the Federal Republic of Germany ranked fourth and fifth in world trade in these years. The value of trade recorded by a majority of leading world exporters and importers declined in 1952, although that of Canada and Germany in particular continued to expand. Declines seem to have been less prevalent in 1953.

Canadians derive a much larger income from international trade and spend more for foreign goods than do citizens of most other countries. In 1952 Canada's per capita exports and per capita total trade were greater than those of any major trading country except New Zealand, although in per capita

imports Canada also ranked below Hong Kong. Commodity exports absorbed 19.0 p.c. of all the goods and services produced in Canada in 1952; imports were equivalent to 17.5 p.c. of total expenditures on Canadian production.

Leading Countries in World Trade, 1951 and 1952

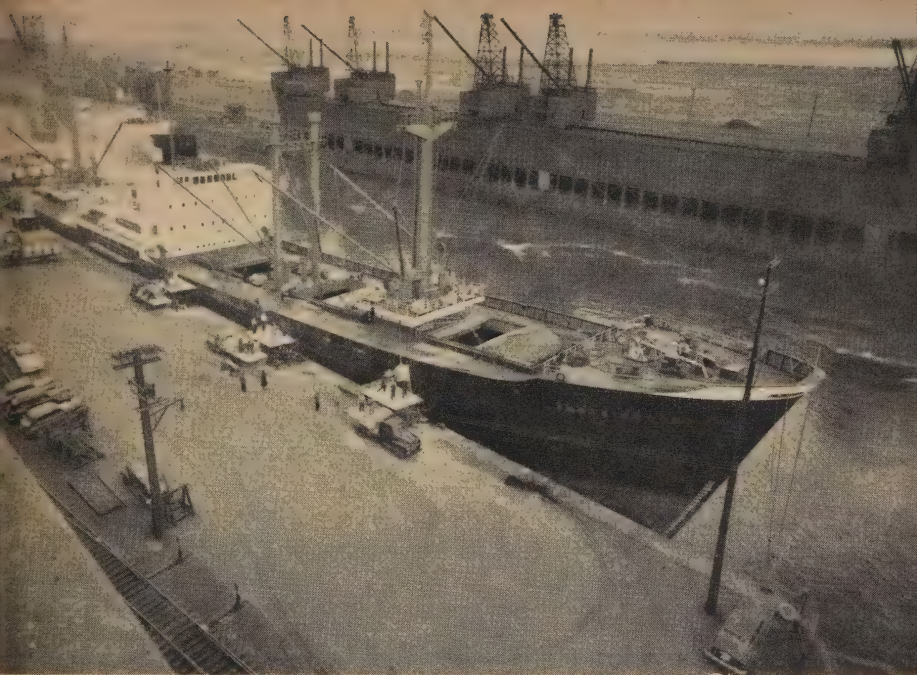
(Countries are ranked by total trade and total trade per capita in 1952.)

NOTE.—Sources of data: Trade—International Monetary Fund; Population—United States Statistical Office.

Country	Exports, f.o.b.		Imports, c.i.f.		Total Trade	
	1951	1952	1951	1952	1951	1952
VALUE OF TRADE (Millions of United States Dollars)						
United States.....	15,041	15,170	11,946	11,633	26,987	26,803
United Kingdom.....	7,596	7,630	10,942	9,747	18,538	17,377
Canada.....	4,042	4,760	4,195	4,479	8,237	9,239
France.....	4,178	3,896	4,554	4,431	8,732	8,327
Germany, Federal Republic of....	3,461	3,990	3,494	3,818	6,955	7,808
Belgium and Luxembourg.....	2,649	2,426	2,535	2,424	5,184	4,850
Netherlands, The.....	1,978	2,130	2,657	2,251	4,545	4,381
Italy.....	1,647	1,383	2,167	2,314	3,814	3,697
Australia.....	2,043	1,690	2,423	1,979	4,466	3,669
Brazil.....	1,757	1,409	2,011	2,010	3,768	3,419
Japan.....	1,355	1,273	1,995	2,028	3,350	3,301
Sweden.....	1,782	1,562	1,776	1,730	3,558	3,292
World Trade¹.....	76,935	74,137	81,456	79,825	158,391	153,962
TRADE PER CAPITA (United States Dollars)						
New Zealand.....	356	337	306	370	662	707
Canada.....	289	330	299	310	588	640
Hong Kong.....	384	255	422	332	806	587
Belgium and Luxembourg.....	295	269	282	269	577	538
Switzerland.....	228	228	287	249	515	477
Sarawak.....	291	247	219	216	510	463
Sweden.....	252	219	251	243	503	462
Venezuela.....	287	294	142	153	429	447
Norway.....	188	170	266	262	454	432
Australia.....	242	196	287	229	529	425
Netherlands, The.....	193	205	250	217	443	422
Denmark.....	195	196	235	222	430	418

¹ Exclusive of China, U.S.S.R., and Eastern European countries not reporting trade currently.

Trade Trends, 1950-53.—Canada's trade showed four distinct phases in the period 1950-53. The first lasted until June 1950 and was a period of adaptation to the new environment created by the general readjustment of exchange rates in the previous autumn. Changes in the commodity composition of trade were minor, since Canadians still had the same principal commodities to sell and the same basic requirements for imports. Changes in the direction of trade were pronounced. Exports to the United States increased sharply, while those to most overseas countries were reduced, especially the United Kingdom, the Commonwealth and Europe. Imports from the United States were subject to greater competition from overseas countries whose prices had been decreased by devaluation, and the share of overseas countries in Canada's imports began to increase. These adjustments were eased by the recovery of the United States economy from its 1949 recession and the consequent atmosphere of expanding markets and gradually rising prices that prevailed in this period. The imbalance of Canada's trade, both in total and with individual countries, was greatly reduced by these changes.



A record cargo of 12,400 tons of raw cane sugar from the British West Indies being unloaded simultaneously from the ship's five hatches at a Montreal dock.

The outbreak of the Korean war disturbed the emerging pattern of peacetime trade. To an already strong civilian demand for goods was added a new military demand. Production of goods increased, resulting in greater current consumption of raw materials and, in addition, endeavours were made to increase inventories of materials in order to facilitate greater production and to guard against possible shortages. Investment in Canadian development was also stimulated. The prices of many important commodities rose sharply, especially those of strategic materials produced in southeast Asia and Australasia. From June to December 1950, the average prices of Canadian imports rose more than 7 p.c. and export prices almost 5 p.c. despite the effect of the appreciation of the Canadian dollar in moderating these increases. From December 1950 to June 1951 there was a further rise of nearly 12 p.c. in import prices and almost 10 p.c. in export prices.

The adverse movement in the terms of trade resulting from the lesser advance of export than of import prices contributed to the heavy import balance on trade recorded in late 1950 and early 1951. More important was the greater increase in import volume than export volume. Because Canada's demand for most commodities is a relatively small fraction of total world demand and because Canada's financial position was strong throughout the period, the rapid growth of imports was not generally restricted by foreign productive capacity, by exchange problems, or even by price. On the other hand, the expansion of exports was limited by the rate of growth of Canada's productive capacity and by an increase in Canadian demand for Canadian goods as well as for foreign goods in this period.



*Rolls of paper on
way to Mexico from
Quebec paper mill*

In mid-1951 the bilateral balance of Canada's trade again began to deteriorate. Strategic considerations required that the greater part of imports of defence goods come from the United States and, as these began to enter Canada, that country's share in total imports began to increase. The attractiveness of the United States market for some commodities was weakened by price controls. At the same time, the balance of payments considerations which had deterred some dollar-short countries from purchasing dollar materials were weakened by the overriding importance of defence needs and also by relatively lower dollar prices for many goods. These forces were especially important in the next phase of trade developments.

The latter part of 1951 and the early months of 1952 were again a period of adjustment in Canada's trade. Demand for imports suffered a temporary recession as inventory growth ceased and fears of war-born shortages were dispelled. The anti-inflationary credit controls imposed in the 1951 Federal Budget also reduced demand for imports of some goods, especially consumer durables, and for materials and components with which to produce them. The same controls reduced the Canadian market available to Canadian producers of this class of goods, thus increasing exportable supplies. The steady growth of Canadian productive capacity permitted greater exports of many important industrial materials. Good Canadian grain crops, coincident with poor crops in many other producing and consuming countries, also contributed heavily to increased exports.

Price trends worked with volume trends to create an export balance on trade in this period. Spot prices of many important commodities had begun to decline in February 1951 and, after midsummer, Canada's import price index moved downward. Export prices continued to advance until November and their subsequent moderate decline, at least until the last quarter of 1952, was caused chiefly by the appreciation of the Canadian dollar rather than by a general decline in world prices of these goods. The sharp change in the terms of trade resulting from these divergent price movements was mainly responsible for the swing from an import balance on merchandise trade to an export balance in the last quarter of 1951 and in 1952.

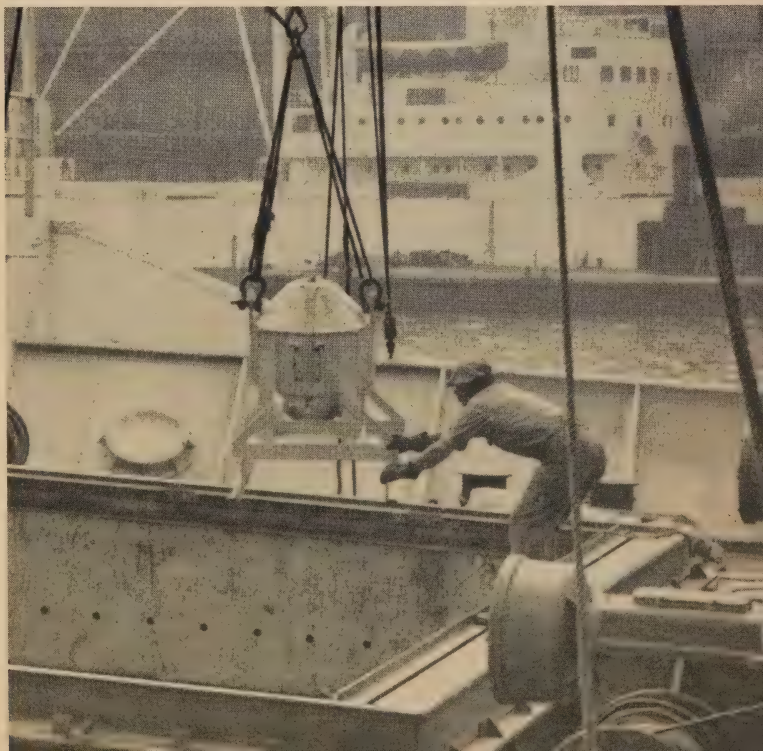
The direction of Canada's trade was also altered in this period. The share of the United States in exports fell off, most of the increase in total exports being directed to overseas markets. Sales of grain were much heavier than in

preceding years, because of reduced crops in Europe and Australia and the failure of the Argentine crop in early 1952. Relatively low Canadian prices for wood products, especially newsprint paper, wood-pulp and lumber, permitted sizable shipments to Europe and other areas normally supplied by Scandinavian producers. Overseas demand for Canadian metals and minerals also reached a peak. The improvement in the exchange reserves of many overseas countries during 1951 played an important role in making effective their increased demand for Canadian goods.

The change in the direction of imports was quite different. Strategic considerations affecting defence purchases together with the predominant position of the United States as a supplier of investment goods promoted a further increase in that country's share of Canada's imports. A temporary recession in Canadian demand for fibres and textiles in the early part of 1952 also affected overseas suppliers more than those in the United States, since these commodities form a larger part of imports from overseas sources. The decline in import prices (as with the rise in import prices in the preceding year) was sharpest in the case of goods from Commonwealth countries and severely reduced the value of purchases from that area. As a result of these changes, the bilateral imbalance of Canada's trade was quite pronounced in the first half of 1952, although it was proportionately less than in 1949. The exchange reserves of the sterling area were seriously depleted during the latter part of 1951 and, as a result, most of these countries tightened their trade controls in the first half of 1952 with the object of balancing their foreign trade in the latter half of that year.

In the latter part of 1952 a new trade picture developed which bore some resemblance to that of the first half of 1950. Canadian demand for imports

radio-active isotope, weighing 1000 lb. and valued at \$10,000, going aboard the CPR freighter "Beaverford" at Montreal. It was consigned to a hospital in England from Atomic Energy of Canada, to help in the fight against cancer.



was exceptionally strong, influenced by record peacetime levels of domestic investment, consumer spending and military purchases. Demand for Canadian products remained good, especially in the United States, but in many overseas countries weakened exchange reserves led to intensified trade controls. Competition in overseas markets was also more intense, as other exporting countries whose export prices had risen more than those of Canada during the Korean war boom now reduced their prices. Also grain supplies from other sources were becoming more readily available, although stocks still had to be rebuilt from the low levels to which they were reduced in some countries during the 1951-52 crop year.

Price movements were generally small after the middle of 1952 and had little effect on the trade totals. Import prices reached a low point in August 1952, 18 p.c. below the level of July 1951. Thereafter they moved gradually upward but by September 1953 had risen less than 4 p.c. above that trough level. Export prices declined gradually from November 1951 but in September 1953 were only 6 p.c. below their peak. Thus, while the terms of trade gradually deteriorated after August 1952, most of the gain made in the period following the Korean war boom remained.

Although average price movements were small in this latter period, a few individual prices showed very sharp fluctuations. Among Canada's exports, zinc, lead, wood-pulp, cattle and beef showed very sharp price declines but these were largely balanced by moderate increases in the prices of other important commodities. Among imports, the price of iron ore showed a relatively large individual gain and the price of wool recovered sharply from its trough. However, it was the very small price increases shown by most important imports that offset the few substantial price declines that occurred in this period.

Strong Canadian demand produced an extremely sharp increase in import volume in 1952 and 1953. This increase actually began about the end of 1951, surpassed the previous peak at the end of the first quarter of 1952, and continued steadily until the middle of 1953. Throughout most of 1952 and the first quarter of 1953 export volume showed some decline, although it recovered to a new record level in the second and third quarters of 1953. The much sharper increase in import volume than export volume in 1952 and 1953 was chiefly responsible for the reappearance of an import balance on merchandise trade in 1953. In large part this balance reflected the greater rate of growth of the Canadian economy than of most other economies. Heavy domestic investment is increasing Canada's productive and export capacity, but large quantities of imports of investment goods are generally required before investment projects can be brought to a sufficiently advanced state to contribute to production and exports.

Changes in the direction of trade were also prominent. Controls restricted many exports especially in the case of Commonwealth countries and some important markets in Latin America. Overseas sales of many materials were also reduced, especially those of lumber, wood-pulp and some base metals. But lower shipments to overseas markets were largely offset by larger shipments to the United States, and that country's share in Canada's exports again increased. The share of imports received from the United States showed relatively little change, but those of the United Kingdom and Europe improved. Low prices still depressed the value of imports from the Commonwealth.

During the third quarter of 1953 no new trends developed in exports and, while the volume of imports showed a small decrease, the evidence does not indicate that their previous trend has been reversed, although it may have been arrested temporarily. The revised International Wheat Agreement became effective in this period, but wheat exports in the early months of the 1953-54 crop year showed little change from the previous year's levels, although the average price received for wheat was slightly higher. There were some indications that trade controls might prove a less serious barrier to exports in 1954 than they had throughout most of 1953 but there is still no evidence that non-discriminatory multilateral trade will be achieved in the near future.

Summary Trade Statistics, by Quarter, 1950-53

Period	Value of Trade \$'000,000			Price Indexes (1948 = 100)		Volume Indexes (1948 = 100)	
	Total Exports	Imports	Trade Balance	Domestic Exports	Imports	Domestic Exports	Imports
1950							
Jan. - Mar.....	657.0	649.5	+ 7.5	104.7	107.8	80.6	91.4
Apr. - June.....	791.1	803.6	- 12.5	106.3	108.8	95.6	112.2
July - Sept.....	800.1	806.4	- 6.3	110.2	110.8	93.2	110.4
Oct. - Dec.....	908.9	914.8	- 5.9	111.8	114.8	104.5	121.1
1951							
Jan. - Mar.....	819.6	943.9	-124.2	118.0	122.6	89.2	116.9
Apr. - June.....	943.0	1,158.5	-215.5	122.5	129.4	98.9	135.8
July - Sept.....	1,055.6	1,039.6	+ 16.0	125.5	127.9	108.2	123.1
Oct. - Dec.....	1,145.2	942.9	+202.3	126.0	122.1	116.7	116.8
1952							
Jan. - Mar.....	1,001.8	916.1	+ 85.7	124.8	117.2	103.0	118.2
Apr. - June.....	1,119.9	1,034.2	+ 85.7	122.2	111.0	117.9	140.8
July - Sept.....	1,069.2	995.2	+ 74.0	120.7	107.1	113.6	140.6
Oct. - Dec.....	1,165.0	1,084.9	+ 80.1	119.9	108.1	124.8	151.4
1953							
Jan. - Mar.....	913.9	998.0	- 84.1	119.2	108.5	98.3	138.7
Apr. - June.....	1,105.8	1,218.6	-112.8	118.8	109.3	119.7	168.5
July - Sept.....	1,089.0	1,118.2	- 29.2	118.5	110.2	117.9	152.6

shipping service
clerk checking
ships in Montreal
harbour from the
13rd floor of a
township office
building.





Pottery demonstration at the Canadian Showroom, Rockefeller Centre, New York, featuring two of Canada's best known potters. The Showroom is a permanent display of Canadian manufactures, resources and activities, sponsored by the Department of Trade and Commerce.

Distribution of Canadian Trade by Leading Countries and Trading Areas, 1950-53

Item and Period	United States	United Kingdom	Europe	Commonwealth and Ireland	Latin America	Others
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Total Exports—						
Calendar year.....1950	65.0	15.0	6.1	6.3	4.6	3.0
1951	58.9	16.0	8.7	6.7	5.3	4.4
1952	53.9	17.3	10.9	6.6	6.3	5.0
Jan. - Sept.....1953	59.0	16.4	8.8	6.2	4.7	4.9
Imports—						
Calendar year.....1950	67.1	12.7	3.3	7.6	6.7	2.6
1951	68.9	10.3	4.3	7.5	6.7	2.3
1952	73.9	8.9	3.8	4.6	7.0	1.8
Jan. - Sept.....1953	74.1	10.8	3.8	3.8	6.6	1.5
Total Trade—						
Calendar year.....1950	66.0	13.8	4.7	7.0	5.7	2.8
1951	64.0	13.1	6.5	7.1	6.0	3.3
1952	63.5	13.2	7.5	5.6	6.7	3.5
Jan. - Sept.....1953	66.8	13.2	6.2	5.0	5.7	3.1

Commodity Exports and Imports.—A few commodities important in Canadian trade showed especially pronounced changes in the recent past. Grains played a particularly important role in exports in the period 1951-53, owing to the combination of excellent Canadian crops with relatively poor crops in many other countries. Sales of wood-pulp and lumber were especially heavy in 1951 and the early part of 1952, when very high foreign prices widened the area in which the Canadian product could be sold competitively. Shipments of base metals were also large, although the decline in lead and zinc prices in 1952 and 1953 reduced the value of these exports in the latter year. Exports of many manufactured goods were hampered by more stringent dollar-saving controls in many foreign markets in the latter part of 1952 and in 1953, and the United States market for farm machinery in 1953 was reduced by a decline in farm incomes in that country. Exports of cattle and beef were sharply reduced in 1952 by sanitary controls imposed in the United States and other markets after the outbreak of foot-and-mouth disease in Canada and when the disease had been eliminated relatively high Canadian

prices for these commodities prevented exports on a significant scale. Generally, however, no major Canadian export industry was seriously affected by an inability to find home or foreign markets for its products.

Domestic Exports to Leading Countries, 1949-53

NOTE.—Countries ranked by value of exports in 1952.

Country	Calendar Year				January-September	
	1949	1950	1951	1952	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	1,503,459	2,020,988	2,297,675	2,306,955	1,669,629	1,800,423
United Kingdom.....	704,956	469,910	631,461	745,845	576,289	506,766
Belgium and Luxembourg.....	56,525	66,351	94,457	104,376	71,252	51,331
Japan.....	5,860	20,533	72,976	102,603	63,973	69,509
Germany, Federal Republic of.....	23,451 ¹	8,873 ¹	37,028 ¹	94,863	59,393 ¹	50,684
Brazil.....	17,259	15,806	53,684	81,367	58,552	32,319
India.....	72,551	31,520	35,737	55,423	49,709	35,036
Italy.....	12,567	15,476	48,763	52,645	38,898	28,632
Australia.....	35,363	35,446	49,079	49,697	34,201	27,887
France.....	36,004	18,403	46,538	48,264	39,074	21,804
Union of South Africa.....	77,713	42,561	52,736	47,852	41,074	39,913
The Netherlands.....	13,759	8,617	26,191	41,508	26,545	32,245
Mexico.....	15,411	17,624	29,880	39,641	28,310	20,410
Norway.....	21,736	18,924	32,198	39,002	29,897	29,902
Venezuela.....	27,689	25,457	26,982	35,683	28,123	24,542
Switzerland.....	32,281	26,435	25,345	26,918	15,982	21,838
Cuba.....	14,391	18,005	20,424	24,181	18,536	11,714
Ireland.....	9,052	13,321	20,921	23,058	16,792	8,769
Yugoslavia.....	734	818	2,739	22,613	10,246	1,898
Egypt.....	4,762	3,716	2,466	19,363	5,546	11,439
New Zealand.....	14,489	10,983	21,757	18,844	15,744	5,348
Peru.....	7,050	3,744	5,054	16,405	12,073	12,155
Philippines.....	13,983	10,829	15,598	16,045	12,471	10,098
Pakistan.....	18,097	8,681	4,486	16,016	9,819	29,448
Colombia.....	8,012	14,806	12,311	13,756	10,372	12,780

¹ Includes Eastern Germany.

Fashion writers and buyers from the United States relax in the lounge of the Alpine Inn, St. Marguerite, Que., and watch Canadian models show the latest in Canadian designed and manufactured sports clothing.



Changes in imports were generally in an upward direction. A major exception was iron and steel rolling-mill products; imports of these goods declined in 1952 and in 1953 as supplies in Canada eased. Lower prices limited the value of imports of fibres and textiles and there was a definite recession in Canadian demand for these goods in late 1951 and early 1952. However, in 1953 textile imports approached a new record in volume. Prices of tin and rubber were also low for two years. Canadian requirements for imported coal continued to decline in 1953 as the demand for petroleum in the fuels market expanded. However, most commodities shared in the general increase of Canada's imports.

Imports from Leading Countries, 1949-53

NOTE.—Countries ranked by value of imports in 1952.

Country	Calendar Year				January-September	
	1949	1950	1951	1952	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	1,951,860	2,130,476	2,812,927	2,976,962	2,172,317	2,471,696
United Kingdom....	307,450	404,213	420,985	359,757	259,392	339,406
Venezuela.....	91,697	87,264	136,718	135,758	98,853	116,507
Brazil.....	21,163	28,178	40,627	35,103	26,958	23,030
Belgium and Luxembourg.....	19,022	22,795	39,095	33,216	25,463	22,250
India.....	26,233	37,262	40,217	26,822	19,401	19,302
Malaya and Singapore.....	16,187	28,852	57,980	25,473	19,904	16,366
Mexico.....	25,494	32,974	18,013	23,937	18,762	13,418
British Guiana.....	22,355	21,735	25,025	23,660	15,685	13,052
Germany, Federal Republic of.....	7,134 ¹	11,026 ¹	30,936 ¹	22,629	16,152	24,524
France.....	13,309	14,669	23,974	19,117	13,967	16,304
Australia.....	27,429	32,803	46,228	18,712	13,432	14,787
Cuba.....	6,562	4,134	8,333	18,615	15,176	10,295
Colombia.....	12,588	13,342	13,063	18,004	12,916	17,224
The Netherlands....	6,688	8,896	14,010	16,495	11,492	16,788
Switzerland.....	10,902	14,464	16,398	16,396	11,168	14,549
Lebanon.....	429 ²	62 ²	16,381 ²	15,171	10,216	14,546
New Zealand.....	8,910	11,855	30,107	14,231	13,128	7,780
Japan.....	5,551	12,087	12,577	13,162	9,116	9,563
Ceylon.....	11,635	17,604	16,396	12,492	9,315	11,021
Netherlands Antilles.....	3,713	17,336	10,809	11,747	7,914	4,064
Italy.....	9,048	9,373	14,217	11,735	7,866	9,867
Trinidad and Tobago.....	14,575	15,205	15,082	9,660	8,518	6,285
British East Africa...	6,094	15,067	10,864	9,593	6,337	4,513
Jamaica.....	16,577	19,080	18,041	9,204	8,543	11,160

¹ Includes Eastern Germany.

² Includes Syria.

Principal Domestic Exports, 1949-53

NOTE.—Commodities ranked by value of exports in 1952.

Commodity	Calendar Year				January-September	
	1949	1950	1951	1952	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Wheat.....	435,158	325,614	441,043	621,292	438,567	440,170
Newsprint.....	433,882	485,746	536,372	591,790	436,755	457,463
Planks and boards.....	160,420	290,847	312,198	295,949	222,568	214,914
Wood-pulp.....	170,675	208,556	365,133	291,863	229,006	182,317
Aluminum, primary and semi-fabricated.....	91,032	103,206	120,853	155,106	104,904	130,240
Nickel, primary and semi-fabricated.....	92,324	105,300	136,689	150,982	117,500	121,678
Barley.....	25,472	23,442	58,822	145,684	75,385	93,066
Wheat flour.....	97,693	93,839	113,854	116,055	84,563	77,487

Principal Domestic Exports, 1949-53—concluded

Commodity	Calendar Year				January-September	
	1949	1950	1951	1952	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Copper, primary and semi-fabricated.....	84,052	82,990	81,691	100,806	76,032	91,596
Zinc, primary and semi-fabricated.....	55,700	58,710	83,669	96,283	76,988	47,074
Farm implements and machinery (except tractors) and parts.....	84,127	75,512	96,873	95,692	78,052	59,035
Asbestos, unmanufactured..	36,934	62,752	80,333	86,510	63,697	61,718
Oats.....	18,533	16,571	53,899	68,240	44,427	34,217
Pulpwood.....	31,317	34,768	68,103	64,820	47,893	33,635
Whisky.....	32,703	41,682	54,039	54,254	33,819	40,010
Fish, fresh and frozen.....	34,752	49,711	53,363	52,852	39,913	38,318
Lead, primary and semi-fabricated.....	41,886	38,105	45,290	49,676	37,957	29,134
Automobiles, freight.....	12,168	8,827	24,873	48,832	38,869	17,957
Machinery (non-farm) and parts.....	31,840	25,644	40,271	47,378	35,003	28,291
Automobiles, passenger.....	15,883	19,365	38,490	43,634	36,664	27,839
Fertilizers, chemical.....	39,385	38,874	35,734	42,293	31,766	32,720
Aircraft and parts, (except engines).....	24,935	4,383	7,524	37,503	30,835	27,377
Electrical apparatus, <i>n.o.p.</i>	12,293	11,089	17,729	33,892	23,595	33,708
Platinum metals and scrap..	18,046	21,215	30,359	30,627	23,647	20,325
Ferro-alloys.....	19,182	17,075	31,347	30,380	22,726	15,699
Beef and veal, fresh.....	30,629	34,219	50,965	30,323	21,497	7,848
Fodders, <i>n.o.p.</i>	9,933	14,034	25,319	29,483	20,390	16,044

Principal Imports, 1949-53

NOTE.—Commodities ranked by value of imports in 1952.

Commodity	Calendar Year				January-September	
	1949	1950	1951	1952	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.....	216,316	226,249	328,741	360,969	266,824	302,008
Petroleum, crude and partly refined.....	193,038	203,996	233,148	210,036	156,509	163,775
Automobile parts (except engines).....	117,748	158,405	195,177	190,337	143,841	176,829
Rolling-mill products.....	98,093	93,639	173,127	143,133	110,443	91,435
Electrical apparatus, <i>n.o.p.</i>	69,802	82,585	120,101	139,567	96,994	146,928
Engines, internal combustion, and parts.....	45,610	47,068	80,314	126,332	101,479	82,882
Tractors and parts.....	118,506	108,320	125,562	119,253	95,864	109,894
Coal, bituminous.....	93,455	118,788	115,275	99,571	75,411	71,861
Aircraft and parts (except engines).....	13,256	10,942	41,438	95,212	70,709	85,834
Farm implements and machinery (except tractors) and parts.....	58,706	53,322	69,529	78,044	65,529	74,660
Tourist purchases.....	28,847	33,090	47,071	66,682	46,311	55,669
Cotton, raw.....	65,676	88,461	94,315	65,956	44,913	42,866
Fuel oils.....	18,134	45,909	58,389	64,908	45,197	40,757
Sugar, unrefined.....	66,126	77,208	77,100	59,546	40,769	33,279
Pipes, tubes and fittings.....	28,145	35,394	43,183	57,261	39,512	47,756
Cotton fabrics.....	52,666	45,901	54,984	53,248	37,902	44,900
Coffee, green.....	28,584	41,664	48,438	50,775	37,440	40,735
Principal chemicals (except acids), <i>n.o.p.</i>	32,270	37,161	43,940	49,824	37,214	41,494
Automobiles, passenger.....	38,970	75,329	56,632	49,484	38,991	72,527
Coal, anthracite.....	45,598	54,265	51,238	49,430	34,505	27,904
Non-commercial items.....	18,001	15,575	32,544	47,095	33,248	45,931
Refrigerators and parts.....	7,342	15,353	30,620	43,891	33,189	42,503
Gasoline.....	45,423	39,783	33,444	39,148	25,103	35,221
Vegetables, fresh.....	18,460	23,259	26,295	37,969	32,499	24,022
Parcels of small value.....	12,597	9,359	22,025	33,691	28,077	21,496
Wool fabrics.....	41,747	31,719	38,567	32,213	23,635	32,674
Paper board, paper and products.....	20,068	23,434	34,831	29,921	21,230	27,828

The Canadian Balance of International Payments

Canada's important and complex trading and financial relationships with other countries are mirrored in the statements of the Canadian balance of international payments which include exchanges of services and movements of capital as well as foreign trade in merchandise. During recent years wide fluctuations have occurred in the balance of Canada's current account. After a series of surpluses extending from the early 1930's, Canada experienced deficits in 1950 and 1951 and again in 1953. These deficits were influenced by the growth in the volume of goods and services imported in response to high levels of investment and other economic activity in Canada. But the balances were small in relation to the gross international exchanges of goods and services by Canada which in the past few years have been at an annual rate in excess of \$11,000,000,000.

A modest current account surplus of \$151,000,000 which developed in 1952 following deficits of \$334,000,000 and \$517,000,000 in 1950 and 1951, respectively, must be regarded as due to special factors, in particular a substantial fall in import prices, which caused the terms of trade to move in Canada's favour by 13 p.c. over 1951, and the marketing in 1952 of large crops of wheat and other grains at a time of strong world demand.

As 1953 drew to a close it was clear that strong continuing demands in the Canadian economy had led again to a current account deficit of perhaps \$450,000,000. While Canada's current receipts from international transactions in the first nine months of 1953 declined about 1 p.c. from the same period of 1952, current payments rose by 11 p.c. These opposite movements led to a deficit of \$386,000,000 from transactions in goods and services in the nine-month period of 1953, contrasting with a surplus of \$138,000,000 in the same period one year earlier. A small decrease in merchandise exports and a large increase in imports accounted for most of the change in the current account balance; the non-merchandise items contributed only \$41,000,000 to the deterioration in the balance. The deterioration was mainly accounted for by transactions with overseas countries.

Merchandise exports in the nine months of 1953 were \$3,106,000,000, down by \$75,000,000 from the 1952 period; almost all of this change was in the first quarter of 1953 compared with the same period of 1952. There were striking changes in the destination of exports in the 1953 period. While exports to the United States rose by 8 p.c. over the first nine months of 1952, exports to the United Kingdom and to other overseas countries fell by 12 p.c. and 16 p.c., respectively. Merchandise imports in the first nine months of 1953 rose to \$3,217,000,000, an increase of \$408,000,000 over the same period of 1952. Almost half of the change was in the second quarter of 1953 compared with the same quarter of 1952, and the rest evenly divided between the first and third quarters. Imports from the United States in the first nine months of 1953 rose by 15 p.c., while imports from the United Kingdom rose sharply by 38 p.c.

The large deficit on non-merchandise transactions, typical of recent years, widened to \$275,000,000 in the nine months of 1953, as compared with \$234,000,000 in the same months of 1952. The usually large payments balance on dividend account declined as dividend payments levelled off for the nine months while receipts from Canadian subsidiaries abroad continued to rise. Travel receipts and payments rose by about the same amount and the



The first six of an order of ten Canadian-built diesel-electric locomotives for the Eastern Bengal Railway in Pakistan left Montreal in September 1953. Nine similar units were shipped to Brazil earlier in the year.

payments balance on this account was not greatly changed. The important changes in the invisible items occurred in the freight and shipping account and in the miscellaneous items. Receipts from freight and shipping transactions were lower in 1952 while payments rose with the larger volume of imports. The largest change in the invisibles was an increase from \$121,000,000 to \$160,000,000 in net miscellaneous payments (including official contributions), due to sharply increased payments. A significant part of the increase arose from settlement of costs incurred in connection with the Korean hostilities, while payments under the Colombo Plan and in connection with the North Atlantic Treaty were also higher. Business service payments also rose, reflecting an increased volume of imports and high levels of activity and investment in Canada.

Despite the re-emergence of a current account deficit in the first nine months of 1953, Canada's international accounts were balanced with only a modest fall in the exchange value of the Canadian dollar and the range was relatively narrow, the United States dollar having moved between 96.75 cents and 99.78 cents.

By far the most important source of capital financing Canada's current account deficit was the inflow, estimated at \$260,000,000 and mainly from the United States, for direct investment in foreign-controlled enterprises in Canada. Resource development continued to be the major field for this type of inflow, about three-quarters of which was associated with the mining and petroleum industries. The sale of new issues of Canadian securities to non-residents produced a further \$179,000,000 in this period, but there were

offsetting outflows of capital covering net repatriation of \$30,000,000 through trading and of \$128,000,000 through retirements. The latter figure includes a repurchase for government account of \$75,000,000 of an external loan which was financed through a reduction of Canadian official holdings of gold and United States dollars. Another important source of financing Canada's deficit in the first nine months of 1953 was receipts of principal totalling \$63,000,000 on loans by Canada to governments of other countries.

Canada's net international indebtedness, which was reduced from \$5,500,000,000 at the outbreak of World War II to \$3,700,000,000 in 1948, has been rising in recent years and is again reaching the level of 1939, but non-residents now own a smaller percentage of Canadian industry than was the case before the War. The recent increase in net indebtedness to other countries has been small in relation to the expansion in the economy. Capital of Canadian origin has been the principal source of financing the expansion in most forms of physical assets and in the total, but in some areas of development, such as petroleum exploration and mining, capital from the United States has been a most important contributor.

Travel Between Canada and Other Countries

The main development in Canada's travel account in 1952 was the continuation of the trend toward substantially higher expenditures by Canadian travellers in other countries accompanied by little change in expenditures by residents of other countries in Canada. An excess of payments over receipts appeared in Canada's travel account with the United States for the first time, although the credit balance of \$154,000,000 in 1948 had been reduced progressively year by year to a point where it was replaced by a debit balance of \$37,000,000 in 1952. A debit balance on travel account with overseas countries is customary and payments increased to a greater extent than receipts during 1952. The debit balance in the travel account with overseas countries was increased from \$18,000,000 in 1951 to \$29,000,000 in 1952. With the additional \$37,000,000 debit balance in Canada's account with the United States, there was an over-all deficit of \$66,000,000 in account with all countries for the year 1952.

There were more visitors to Canada from the United States in 1952 than ever before. Although the number travelling by automobile remained about the same as in the previous year, their expenditures were down \$9,000,000, the first decline to be registered since 1943. The decrease was consistent for both non-permit and customs permit travellers and was distributed throughout the year. The increase in volume of non-automobile traffic carried a corresponding increase of \$8,000,000 in expenditures.

There was an increase of nearly 3,000,000 in the number of Canadian travellers returning to Canada during 1952. Their expenditures abroad at \$294,000,000 were \$48,000,000 higher than in 1951, a considerable part of the increase consisting of purchases of merchandise by Canadian travellers in the United States.

In the first half of 1953 the number of visitors to Canada from the United States increased by 3 p.c. and their expenditures by over 6 p.c. as compared with the first six months of 1952. This indicates higher average expenditures per visit, a more encouraging trend than that experienced during the previous year. During the same period the number of Canadians returning after visits

to the United States increased by 9 p.c. but their expenditures were practically the same as in the first half of 1952, indicating a drop in average expenditure per visit. Indications are that the 1952 deficit in Canada's travel account with the United States will be reduced appreciably in 1953.

The balance of payments on travel account between Canada and the United States for the years 1946 to 1952 were as follows:—

<u>Year</u>	<u>Credits</u>	<u>Debits</u>	<u>Balance</u>	<u>Year</u>	<u>Credits</u>	<u>Debits</u>	<u>Balance</u>
(Millions of Dollars)				(Millions of Dollars)			
1946.....	216	130	+ 86	1950.....	260	193	+ 67
1947.....	241	152	+ 89	1951.....	258	246	+ 12
1948.....	267	113	+154	1952.....	257	294	- 37
1949.....	267	165	+102				

Canada continues to receive more United States dollars from travel than any other country but the proportion of the total is gradually declining. During the War, travel to overseas countries was almost at a standstill, with the result that Canada and Mexico received between 80 and 90 p.c. of the expenditures of United States travellers in foreign countries. In 1945 Canada received 48 p.c., dropping to 46 p.c. in 1946, and 44 p.c. in 1947 and 1948. Beginning in 1949 the rate of decline gained momentum and the proportion dropped to 39 p.c., then to 36, 35 and 33 p.c. in the years 1950, 1951 and 1952, respectively. Meanwhile the proportion spent in Europe and the Mediterranean area increased from a low of 3 p.c. in 1942 and 1943 to a level almost as high as Canada in 1952. Travel to the West Indies and Central America also made rapid post-war recovery but on a smaller scale.

The Rt. Hon. C. D. Howe, Minister of Trade and Commerce, headed the Canadian delegation to the eighth session of contracting parties to the General Agreement on Tariffs and Trade, held at Geneva, Switzerland, in September 1953.





Lined up at a stop-over are some of the eight light aircraft, most from the United States that toured Canada from Lethbridge, Alberta to Yarmouth, N.S. in July 1953. The tour was sponsored by the Royal Canadian Flying Clubs Association.

It is also of interest to note the comparison between Canada and Mexico as recipients of United States expenditures on travel from 1948 to 1952. During this period the portion spent in Mexico increased from 19 to 22 p.c. whereas the portion received by Canada decreased from 45 to 33 p.c. Mexico has made rapid strides in improving accommodation and transportation facilities and appears to be reaping benefits from these efforts.

The trend in expenditures by Americans on travel in the United States itself is another related factor of major significance. Though comparable statistics are not available, there are clear signs of rising expenditures by Americans on recreational travel in their own country, the result of the great rise in incomes and leisure time. It is quite evident that expenditures on travel in Canada by Americans have not kept pace with expenditures on vacations and travel in the United States in recent years.

Expenditures of travellers between Canada and the United States from 1947 to 1952 are classified below by means of travel.

<i>Means of Travel</i>	<i>1947</i>	<i>1948</i>	<i>1949</i>	<i>1950</i>	<i>1951</i>	<i>1952</i>
	(Millions of Canadian Dollars)					
EXPENDITURES IN CANADA OF TRAVELLERS FROM U.S.—						
Automobile.....	118.4	139.4	145.3	148.1	151.6	142.5
Rail.....	56.6	55.9	52.8	43.5	43.6	45.9
Boat.....	22.1	16.0	13.8	13.7	10.5	14.2
Through bus.....	16.7	20.8	24.4	20.8	17.7	18.1
Aircraft.....	13.1	12.1	17.6	21.4	22.2	21.9
Other (pedestrians, local bus, etc.)....	14.2	23.2	13.2	12.2	12.4	14.4
TOTALS.....	241.1	267.4	267.1	259.7	258.0	257.0
EXPENDITURES IN U.S. OF TRAVELLERS FROM CANADA—						
Automobile.....	32.6	25.1	52.9	67.3	93.9	118.5
Rail.....	52.2	35.9	46.2	47.0	58.2	75.2
Boat.....	4.1	3.1	4.6	3.5	3.9	3.8
Through bus.....	34.6	25.5	33.1	42.0	48.8	51.6
Aircraft.....	9.0	7.3	9.7	13.8	22.1	26.1
Other (pedestrians, local bus, etc.)....	19.8	16.3	18.4	19.1	19.0	18.4
TOTALS.....	152.3	113.2	164.9	192.7	245.9	293.6

the Laurentian Mountain district just north of Montreal, Que., is one of the most popular year-round tourist areas in Canada.



ruins of the Fortress of Louisbourg, Cape Breton Island, N.S., built by the French between 1720 and 1740. Its capture by the British in 1758 preceded the transfer of Canada from French to British rule.



the new central building, Jasper Park Lodge, Alta., as seen from Lac Beauvert.





The life of the nation goes on, mainly oblivious to the background of administrative services provided by three levels of government—federal, provincial and municipal—which is the basis of a stable, secure and satisfying existence.

Finance

• Public Finance

A SUMMARY of the combined finance statistics of all levels of government in Canada is given in this section, together with a more detailed presentation of separate federal, provincial and municipal statistics.

Combined Statistics of All Governments

Combined Revenue and Expenditure.—Both net revenue and net expenditure in 1950 showed increases over 1949 at all levels of government. In the case of the provinces and municipalities this represented a continuation of the rapid expansion of government financial activity subsequent to the War. In some measure the increased dollar expenditure is accounted for by the general rise in price levels, but most of the increase may be attributed to the execution of capital expenditure programs curtailed or deferred during the War and to the extension of government services in keeping with the considerable post-war expansion of the Canadian economy. On the other hand, the Federal Government, which was responsible for financing the war effort, decreased expenditure sharply after the cessation of hostilities in 1945. Increased social welfare payments and, lately, the defence preparedness program have caused another upward trend in federal spending since 1948.

Comparative Government of Canada, Provincial and Municipal Revenue, 1937-50

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

Year	Government of Canada	Provincial and Municipal			Grand Total
		Provincial	Municipal	Total	
REVENUE					
	\$'000	\$'000	\$'000	\$'000	\$'000
1937.....	460,544	221,397	304,161	525,558	986,102
1939.....	480,027	236,223	316,964	553,187	1,033,214
1941.....	1,389,433	301,842	331,206	633,048	2,022,481
1943.....	2,522,414	250,646	340,690	591,336	3,113,750
1945.....	2,694,116	316,724	356,289 ¹	673,013	3,367,129
1947.....	2,663,310	533,857	413,351 ¹	947,208	3,610,518
1948.....	2,575,514	635,697	462,977 ¹	1,098,674	3,674,188
1949.....	2,411,218	730,842 ¹	511,835 ^{1,2}	1,242,677	3,653,895
1950.....	2,905,578	827,286 ^{1,3}	560,437 ^{1,2}	1,387,723	4,293,301
PERCENTAGE DISTRIBUTION					
1937.....	46.7	22.5	30.8	53.3	100.0
1939.....	46.5	22.8	30.7	53.5	100.0
1941.....	68.7	14.9	16.4	31.3	100.0
1943.....	81.0	8.1	10.9	19.0	100.0
1945.....	80.0	9.4	10.6	20.0	100.0
1947.....	73.8	14.8	11.4	26.2	100.0
1948.....	70.1	17.3	12.6	29.9	100.0
1949.....	66.0	20.0	14.0	34.0	100.0
1950.....	67.7	19.3	13.0	32.3	100.0

¹ Includes Newfoundland.

² Revenue of municipalities in the Province of Quebec is estimated.

³ Includes Yukon Territory.

Comparative Government of Canada, Provincial and Municipal Expenditure (Capital and Current), 1937-50

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

Year	Government of Canada	Provincial and Municipal			Grand Total
		Provincial	Municipal	Total	
	EXPENDITURE				
	\$'000	\$'000	\$'000	\$'000	\$'000
1937.....	444,599	359,689	296,288	655,977	1,100,576
1939.....	571,198	354,883	304,580	659,463	1,230,661
1941.....	1,718,787	311,260	292,517	603,777	2,322,564
1943.....	4,907,475	300,997	300,579	601,576	5,509,051
1945.....	4,652,841	370,875	334,261 ¹	705,136	5,357,977
1947.....	1,762,472	625,539	454,477 ¹	1,080,016	2,842,488
1948.....	1,799,404	775,814	545,396 ¹	1,321,210	3,120,614
1949.....	2,010,587	873,929 ¹	619,106 ^{1,2}	1,493,035	3,503,622
1950.....	2,494,731	923,740 ^{1,3}	682,146 ^{1,2}	1,605,886	4,100,617
	PERCENTAGE DISTRIBUTION				
1937.....	40.4	32.7	26.9	59.6	100.0
1939.....	46.4	28.8	24.8	53.6	100.0
1941.....	74.0	13.4	12.6	26.0	100.0
1943.....	89.1	5.5	5.4	10.9	100.0
1945.....	86.8	6.9	6.3	13.2	100.0
1947.....	62.0	22.0	16.0	38.0	100.0
1948.....	57.7	24.8	17.5	42.3	100.0
1949.....	57.4	24.9	17.7	42.6	100.0
1950.....	60.9	22.5	16.6	39.1	100.0

¹ Includes Newfoundland.
Quebec is estimated.

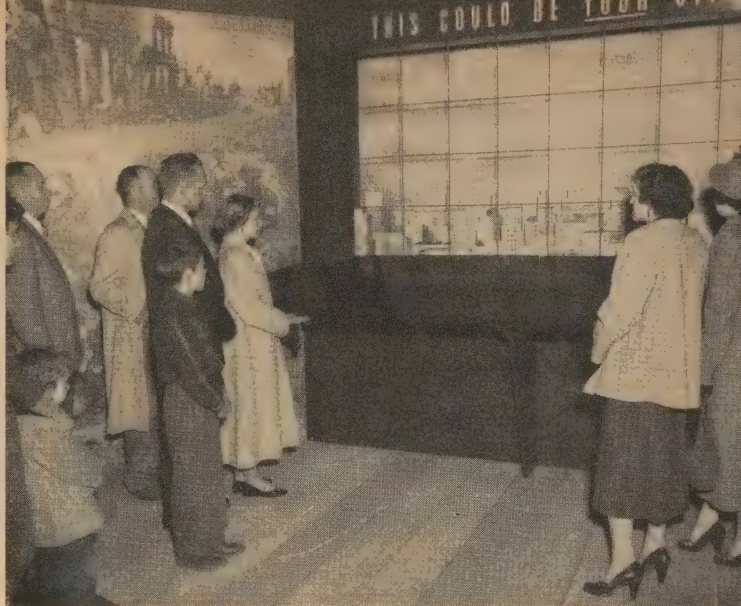
² Expenditure of municipalities in the Province of
³ Includes Yukon Territory.

In the above tables, revenue and expenditure are shown on a net basis. Offset against expenditure are such revenue items as grants-in-aid and shared-cost contributions from other governments, interest revenue, institutional revenue, and certain sales of commodities and services. It should be noted that expenditure excludes debt retirement but includes expenditure financed from capital borrowings.

Combined Debt.—New borrowings of provincial and municipal governments have shown a tendency to exceed debt retirement in the post-war years, as might be expected with the capital expansion programs undertaken by these governments. The Federal Government, however, has reduced its net direct debt since the War.

Indirect debt, resulting from governmental guarantees of the debts of other corporate entities, has shown a distinctly different pattern of change at the various levels of government during the 1946-50 period. Provincial governments have demonstrated a considerable propensity to increase their indirect support of various activities by financial guarantees: between 1946 and 1950 the net indirect debt of the provinces increased almost fourfold. Municipalities, on the other hand, maintained their net indirect debt at a very stable level. The total effect of fluctuations in the net indirect debt of the Federal Government over the years 1946-50 has been a moderate increase in this debt.

A civil defence display, depicting the devastation of a city by an atomic bomb, is one of many in an exhibit prepared by the Department of Health and Welfare. The exhibit travelled from coast to coast in an effort to inform Canadians concerning the need for preparation and the steps to be taken in case of disaster.



Combined Government of Canada, Provincial and Municipal Direct and Indirect Debt, 1946-50

NOTE.—Figures as at fiscal years ended nearest Dec. 31.

Item	1946	1947	1948	1949 ¹	1950 ¹
	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—					
Government of Canada.....	18,048,660	17,631,616	17,460,635	17,299,664	17,554,469
Provincial.....	1,817,524	1,746,824	1,820,191	1,941,941	2,005,071 ²
Municipal ³	936,835	980,550	1,009,193	1,128,926	1,277,841
Totals.....	20,803,019	20,358,990	20,290,019	20,370,531	20,837,381
Less Inter-governmental Debt.	231,055	150,047	166,338	199,066	214,391
Combined Direct Debt...	20,571,964	20,208,943	20,123,681	20,171,465	20,622,990
Indirect Debt—					
Government of Canada.....	621,058	603,468	654,803	729,756	701,181
Provincial.....	220,459	471,599	564,509	737,870	860,371
Municipal ³	45,994	45,574	47,006	46,249	45,542
Totals.....	887,511	1,120,641	1,266,318	1,513,875	1,607,094
Less Inter-governmental Debt.	21,710	21,094	22,382	21,900	20,711
Combined Indirect Debt..	865,801	1,099,547	1,243,936	1,491,975	1,586,383
Grand Totals, Direct and Indirect Debt.....	21,437,765	21,308,490	21,367,617	21,663,440	22,209,373

¹ Includes provincial and municipal debt of Newfoundland Territory.

² Includes Yukon

³ The debt of municipalities in the Province of Quebec is estimated.

Governmental guarantees of debt which increase indirect debt, and capital borrowings for non-expense purposes such as for loans and advances which increase direct debt, are not reflected in the revenue and expenditure tables.

Finances of the Federal Government

A feature of Federal Government finance is the great increase over the years in the net debt of Canada. The table below records the trend of Canada's federal net debt from Confederation to 1953. In 1868 this net debt amounted to less than \$76,000,000, representing \$21.58 per head of the population. Two world wars brought staggering increases in the net indebtedness of the Canadian Government which reached a peak of \$13,421,000,000 in 1946, amounting to \$1,091.85 per capita. Each year since 1947 the *Public Accounts of Canada* have shown a surplus of revenue over expenditure, reducing net indebtedness by corresponding amounts. A record surplus of \$676,119,657 was obtained in 1948, but in the fiscal year ended Mar. 31, 1953, the surplus was only \$23,547,277.

Inflation of the general price level through the years reduces the significance of the magnitude of the Government debt, while the great expansion of the Canadian economy, both in absolute terms and in relation to population, allows the country to support the present debt on a sound financial basis. In terms of the gross national product, the trend in Canada's debt is, indeed, quite favourable. In 1939 the net debt of Canada amounted to 60.2 p.c. of the gross national product, in 1946 this had risen to 113.3 p.c., but by 1952 the net debt had been reduced to only 48.5 p.c. of Canada's gross national product.

Finances of the Federal Government, Years Ended Mar. 31, 1868-53

NOTE.—These figures are derived from the *Public Accounts of Canada* and differ from those in the preceding Combined Statistics section. Revenue and expenditure in this table are on a gross basis and net debt here represents the excess of gross debt over net active assets.

Year	Total Revenue	Per Capita Revenue ¹	Total Expenditure ²	Per Capita Expenditure ¹	Net Debt at End of Year	Net Debt Per Capita ³
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.95	14,071,689	4.06	75,757,135	21.58
1871.....	19,375,037	5.34	19,293,478	5.32	77,706,518	21.06
1881.....	29,635,298	6.96	33,796,643	7.94	155,395,780	35.93
1891.....	38,579,311	8.07	40,793,208	8.54	257,809,031	49.21
1901.....	52,516,333	9.91	57,982,866	10.94	238,480,004	49.99
1911.....	117,884,328	16.87	122,861,250	17.58	340,042,052	47.18
1921.....	436,292,184	50.99	528,302,513	61.75	2,340,878,984	266.37
1931.....	357,720,435	35.04	441,568,413	43.26	2,261,611,937	217.97
1939.....	502,171,354	45.03	553,063,098	49.60	3,152,559,314	279.80
1940.....	562,093,459	49.89	680,793,792	60.42	3,271,259,647	287.43
1941.....	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1942.....	1,488,536,343	129.36	1,885,066,055	163.82	4,045,221,161	347.11
1943.....	2,249,496,177	193.02	4,387,124,118	376.45	6,182,849,101	524.19
1944.....	2,765,017,713	234.42	5,322,253,505	451.23	8,740,084,893	731.63
1945.....	2,687,334,799	224.96	5,245,611,924	439.11	11,298,362,018	935.91
1946.....	3,013,185,074	249.60	5,136,228,505	425.47	13,421,405,449	1,091.85
1947.....	3,007,876,313	244.70	2,634,227,412	214.30	13,047,756,548	1,039.58
1948.....	2,871,746,110	228.81	2,195,626,453	174.94	12,371,636,893	964.80
1949.....	2,771,395,075	216.13	2,175,892,332	169.69	11,776,134,152	875.74
1950.....	2,580,140,615	191.87	2,448,615,662	182.09	11,644,609,199	849.23
1951.....	3,112,535,948	226.99	2,901,241,698	211.58	11,433,314,948	816.14
1952.....	3,980,908,652	284.17	3,732,875,250	266.46	11,185,281,546	775.14
1953.....	4,360,822,789	302.21	4,337,275,512	300.57	11,161,734,269	773.51

¹ Based on estimated population as at June 1 of the immediately preceding year.

² Includes non-active advances to railways and transfers from active to non-active assets for 1911 and subsequent years.

³ Based on estimated population as at June 1 of same year.

Summary of Revenue and Expenditure, Years Ended Mar. 31, 1950-53

Item	1950	1951	1952	1953
	\$	\$	\$	\$
Revenue				
Customs import duties....	225,877,683	295,721,750	346,364,563	389,442,109
Excise duties.....	220,564,504	241,046,174	217,939,983	241,360,370
Income tax.....	1,272,650,191	1,513,135,510	2,161,373,408	2,473,790,089
Excess profits tax.....	—1,788,388	10,140,910	2,364,909	—
Sales tax (net).....	403,437,159	460,120,405	573,470,562	563,340,942
Succession duties.....	29,919,780	33,599,089	38,207,985	38,070,530
Other taxes.....	172,456,150	231,586,061	318,053,672	291,588,897
Totals, Revenue from Taxation.....	2,323,117,079	2,785,349,899	3,657,775,082	3,997,592,937
Non-tax revenue.....	205,599,358	233,348,382	281,971,660	280,134,664
Totals, Ordinary Revenue.....	2,528,716,437	3,018,698,281	3,939,746,742	4,277,727,601
Special receipts and other credits.....	51,424,178	93,837,667	41,161,910	83,095,188
Totals, Revenue.....	2,580,140,615	3,112,535,948	3,980,908,652	4,360,822,789
Expenditure				
Agriculture.....	75,046,567	142,785,183	67,134,389	106,710,890
Auditor General's Office...	561,804	573,777	601,128	576,211
Chief Electoral Officer....	4,456,108	276,925	367,736	464,487
Citizenship and Immigration.....	17,701,414	20,672,564	23,240,788	23,646,348
Civil Service Commission..	1,512,851	1,580,319	1,691,663	1,909,508
Defence Production.....	—	—	30,978,479	88,817,141
External Affairs.....	16,680,410	22,079,561	37,582,459	39,251,463
Finance.....	745,239,512	752,572,062	873,613,548	946,967,875
Fisheries.....	7,586,370	8,964,464	8,733,025	10,776,926
Governor General and Lieutenant Governors. .	274,025	244,239	275,114	396,924
Insurance.....	311,486	368,741	403,336	448,619
Justice, including penitentiaries.....	10,959,086	12,406,679	14,038,715	14,908,495
Labour.....	56,143,234	62,628,099	64,302,099	67,021,861
Legislation.....	5,229,174	4,710,966	5,945,263	6,157,261
Mines and Technical Surveys.....	25,356,752	17,556,401	27,751,836	29,658,169
National Defence.....	384,879,008	782,457,272	1,415,473,862	1,882,418,468
National Health and Welfare.....	423,320,122	448,852,907	498,752,115	406,564,698
National Revenue.....	50,604,219	48,460,884	54,063,557	55,548,489
Post Office.....	82,639,741	91,781,466	97,973,263	105,553,191
Prime Minister's Office....	120,142	124,315	4,057,687	3,720,571
Privy Council Office.....	4,008,269	4,125,791	—	—
Public Archives.....	198,134	205,960	251,018	306,714
Public Printing and Stationery.....	866,069	706,201	1,103,156	1,607,237
Public Works.....	67,058,184	73,646,433	77,544,088	81,847,470
Resources and Development.....	25,388,855	31,200,626	34,432,805	38,477,423
Royal Canadian Mounted Police.....	15,970,904	19,800,688	27,340,713	31,141,321
Secretary of State.....	1,600,450	2,064,965	2,399,468	2,201,462
Trade and Commerce.....	50,758,895	48,878,312	46,896,842	44,846,035
Transport.....	127,766,477	85,123,464	99,900,569	103,905,716
Veterans Affairs.....	246,377,400	216,392,434	216,026,529	241,424,539
Totals, Expenditure...	2,448,615,662	2,901,241,698	3,732,875,250	4,337,275,512
Surplus.....	+131,524,953	+211,294,250	+248,033,402	+23,547,277

Reduced taxation rates after the end of hostilities in the 1946 fiscal year cut back revenue somewhat, but since 1950 revenue has risen substantially on moderately increased taxes and a widening base of economic activity. An all-time record revenue of \$4,360,822,789 was collected in the year ended Mar. 31, 1953. Annual expenditure, which was halved between 1944 and 1949, has since increased rapidly, reaching in 1952-53 its highest level since 1946.



A National Film Board crew on location filming highway construction operations in the Fraser River Canyon, B.C.

While the volume of revenue increased greatly, the pattern of revenue collections changed very little during the past five years. Taxes accounted for the major portion of revenue varying between 88 p.c. in 1949 and 92 p.c. in 1952 and 1953. Well over half the taxation revenue was contributed by income tax. Next in importance were sales tax, customs import duties and excise duties. The one striking change in departmental spending was the vast increase in defence expenditure. The combined disbursements of the Departments of National Defence and Defence Production increased more than sevenfold between 1949 and 1953. In the latter year defence spending amounted to 45.4 p.c. of total expenditure.

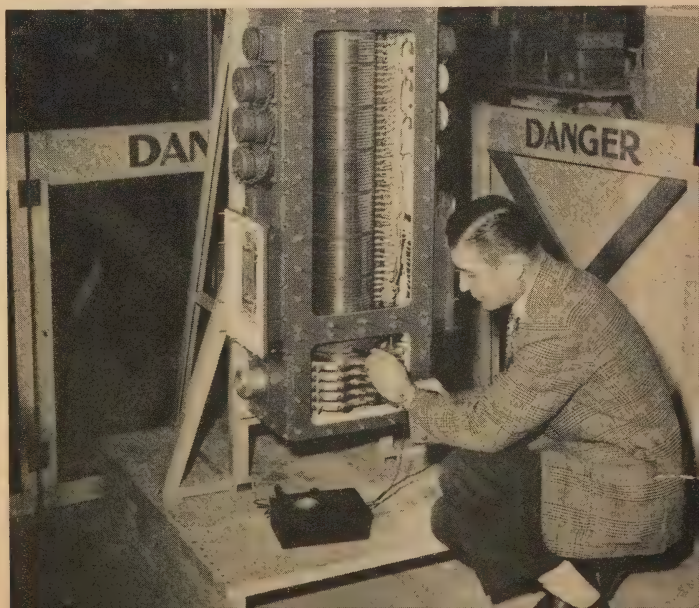
The 1953-54 Budget.—The Budget Speech concerning the fiscal year ending Mar. 31, 1954, was delivered in the House of Commons by the Minister of Finance on Feb. 19, 1953. A slightly increased expenditure for the year was forecast and the Government's policy of maintaining a balanced budget was confirmed. Nevertheless, the Minister was able to announce that the increased economic activity of the country had widened the base of tax collections to the extent where a reduction in taxation rates was possible. The tax concessions were estimated to cost the Government about \$250,000,000 in revenue for the 1953-54 fiscal year, principally through the reduction in personal and corporation income taxes. Effective July 1, 1953, the personal income tax was to revert to the 1950 schedule, meaning an average reduction of a little over 11 p.c. in a full year. At the same time, the corporation income tax was reduced from 20 p.c. on the first \$10,000 taxable income and 50 p.c. on amounts in excess thereof to 18 p.c. on the first \$20,000 taxable income and 47 p.c. on amounts in excess thereof. Some categories of income-tax exemption were also raised. Smaller concessions were made in respect of other taxes. The stamp tax and the security transfer tax were repealed in their entirety and the sales tax was removed from a number of items. The customs tariff was lowered in some instances, particularly with regard to items entering into the production costs of Canada's primary industries. Radio licence fees were abolished.

Funded Debt.—The outstanding unmatured funded debt (including treasury bills) of the Government of Canada at Mar. 31, 1953, amounted to \$14,810,527,589, an increase of \$115,117,138 over the previous year. The average annual interest payable at Mar. 31, 1953, was 2·77 p.c. The portion of the unmatured funded debt then payable in Canada was 97·3 p.c., the portion payable in London amounted to 0·4 p.c. and in New York to 2·3 p.c.

Income Tax.—The War and the continued expansion of the post-war years have made considerable changes in the number of persons paying income tax. Reduced exemptions combined with increasing employment early in the war years resulted in an increase of taxpayers from 871,484 in 1941 to 2,254,246 in 1945 and 2,689,930 in 1948. In 1949, exemption allowances were reduced and the number of taxpayers decreased to approximately the level of the war years. However, flourishing economic conditions subsequent to the outbreak of the Korean conflict, together with immigration on a substantial scale, raised the number of persons subject to income tax to a new high of 2,777,950 for 1951.

Taxpayers Classified by Income Group, 1941-51

Taxation Year	Taxpayers by Income Group					Total Taxpayers	Total Tax
	Under \$2,000	\$2,000–\$2,999	\$3,000–\$4,999	\$5,000–\$9,999	\$10,000 or Over		
	No.	No.	No.	No.	No.	No.	\$'000,000
1941.....	534,337	198,252	92,047	34,325	12,523	871,484	223
1942.....	1,227,857	379,101	119,500	40,434	14,352	1,781,244	336
1943.....	1,434,243	513,875	153,936	45,954	15,346	2,163,354	801
1944.....	1,440,202	572,848	174,354	50,813	16,102	2,254,319	781
1945.....	1,487,984	529,202	167,269	53,242	16,549	2,254,246	642
1946.....	1,566,650	535,730	170,320	59,960	20,462	2,353,122	611
1947.....	1,238,560	773,780	249,800	76,190	28,126	2,366,456	622
1948.....	1,196,500	1,001,260	365,980	93,590	32,600	2,689,930	648
1949.....	745,520	848,960	485,130	113,570	38,790	2,231,970	501
1950.....	747,060	889,900	568,580	125,420	43,280	2,374,240	575
1951.....	732,910	961,620	855,400	176,890	51,130	2,777,950	812



A Federal Government inspector making an electrical test on a slip-ring assembly.

Collection statistics are gathered at the time the payments are made and are thus quite up to date. However, since collections are made before the filing of income tax papers, these figures cannot be directly related to those of individual taxpayers given above.

Collections under the Income Tax Act, Years Ended Mar. 31, 1944-53

Fiscal Year	General Income Tax		Tax on Undistributed Income	Non-Resident Tax	Total Income Tax
	Individuals	Corporations			
	\$	\$	\$	\$	\$
1944.....	813,435,128	311,378,714	—	26,943,193	1,151,757,035
1945.....	767,755,082	276,403,849	—	28,599,137	1,072,758,068
1946.....	691,586,114	217,833,540	—	28,309,619	937,729,273
1947.....	694,530,146	196,819,253	41,972,700	30,136,146	963,458,245
1948.....	659,828,215	351,535,006	12,596,108	35,889,028	1,059,848,357
1949.....	762,563,516	488,549,610	3,440,514	43,445,764	1,297,999,404
1950.....	621,982,213	602,072,622	1,120,510	47,474,846	1,272,650,191
1951.....	652,328,680	711,576,735	87,619,776	61,610,319	1,513,135,510
1952.....	975,776,320	1,118,067,202	14,612,872	55,017,014	2,163,473,408
1953.....	1,225,275,562	1,266,556,794	10,383,356	53,674,377	2,555,890,089

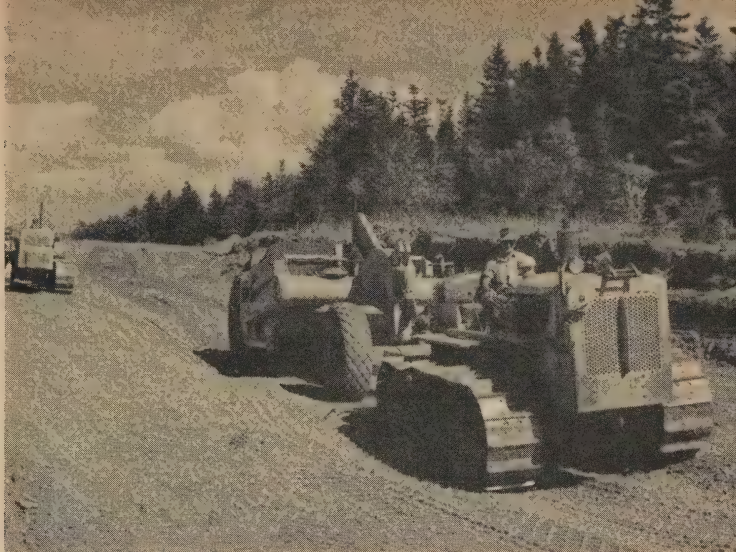
Number of Taxpayers, Total Income Declared and Taxable, and Tax Collected Thereon, by Province and Occupational Class, 1951

Province or Class	Taxpayers	Total Income Declared	Net Taxable Income	Total Tax
Province	No.	\$'000	\$'000	\$'000
Newfoundland.....	25,850	81,979	33,644	6,916
Prince Edward Island.....	5,830	16,732	6,790	1,323
Nova Scotia.....	79,770	226,449	83,480	15,916
New Brunswick.....	56,400	161,957	60,114	11,566
Quebec.....	611,030	1,940,674	807,465	180,766
Ontario.....	1,249,960	3,954,180	1,817,401	377,798
Manitoba.....	147,000	443,044	184,483	38,018
Saskatchewan.....	109,780	341,646	146,346	28,683
Alberta.....	176,190	559,323	252,021	51,951
British Columbia.....	303,450	983,048	452,537	93,402
Yukon Territory.....	2,530	8,373	4,515	832
Non-residents.....	10,160	30,145	18,740	4,896
Totals.....	2,777,950	8,747,550	3,867,536	812,067
Class				
Primary producers.....	67,190	255,683	117,304	23,094
Professionals.....	29,400	222,938	158,411	45,366
Employees.....	2,444,800	7,051,853	2,851,212	543,891
Salesmen.....	29,460	142,308	77,397	17,408
Business proprietors.....	144,870	731,295	421,963	111,901
Financial.....	52,840	312,959	221,778	65,791
Estates.....	4,610	10,061	8,124	1,880
Deceased.....	4,100	18,415	10,438	2,559
Unclassified.....	680	2,038	909	177

Provincial Finance

In 1950 about half of the net general revenue of provincial governments consisted of taxes. The most remunerative of these taxes, on the whole, were the corporation taxes and the taxes on gasoline sales, although in a few provinces where general sales taxes were levied these provided a large share of the revenue. The next largest category of provincial government income

The provision of transportation and communications facilities takes about a quarter of the money expended each year by the provincial governments.



consisted of privileges, licences and permits, pertaining mainly to the exploitation of natural resources, the operation of motor-vehicles, and the control and regulation of liquor sales. Government enterprises also contributed heavily to the provincial treasuries, but it should be noted that this form of revenue consisted almost entirely of the profits of government monopoly liquor sales. Payments received from the Federal Government constituted the remaining large item of provincial revenue. The major portion of these payments was received in compensation by those provinces (all except Quebec and Ontario) that agreed to abandon the personal income-tax and succession-duty fields entirely to the Federal Government.

Almost a quarter of the net general expenditure of the provinces in 1950 was on transportation and communications. Education took the second largest portion, followed by health, debt charges and social welfare.

The latest equipment for high school chemical laboratories is explained to a school principal at the annual teachers' convention in his province. Displays cover virtually all types of equipment for kindergarten, elementary and secondary school classes.





Unique arch of 1,000-year-old cedars felled within 20 minutes walk from the heart of Vancouver, where a 100-acre park of primeval forest has been protected. The arch was raised to honour the logging industry which founded and is still a main support of the city.

Gross Ordinary Revenue and Expenditure of Provincial Governments, by Province, 1949 and 1950

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Province or Territory	Gross Ordinary Revenue		Gross Ordinary Expenditure	
	1949	1950	1949	1950
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	19,944	27,744	24,542	28,099
Prince Edward Island.....	6,375	7,007	6,418	6,993
Nova Scotia.....	44,426	46,540	44,301	47,496
New Brunswick.....	36,885	40,283	36,997	40,892
Quebec.....	244,514	283,846	212,605	245,853
Ontario.....	280,914	313,336	291,425	310,155
Manitoba.....	48,663	65,327	43,340	61,706
Saskatchewan.....	72,690	79,192	67,961	74,819
Alberta.....	98,626	118,088	52,105	61,166
British Columbia.....	145,090	156,586	156,120	162,792
Yukon Territory.....	..	1,077	..	900
Totals.....	998,127	1,139,026	935,814	1,040,871

Net General Revenue and Expenditure of Provincial Governments, by Province, 1949 and 1950

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Province or Territory	Net General Revenue		Net General Expenditure	
	1949	1950	1949	1950
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	17,424	21,028	26,077	27,536
Prince Edward Island.....	5,091	5,590	6,743	7,537
Nova Scotia.....	34,249	35,685	52,703	53,988
New Brunswick.....	29,431	32,271	40,037	43,463
Quebec.....	207,040	238,883	197,651	233,986
Ontario.....	235,421	265,705	280,550	298,779
Manitoba.....	38,042	41,643	38,831	40,912
Saskatchewan.....	61,275	66,668	60,446	68,168
Alberta.....	88,363	105,276	58,729	73,702
British Columbia.....	124,265	138,681	163,267	160,169
Yukon Territory.....	..	1,023	..	1,001
Totals.....	840,601	952,453	925,034	1,009,241

Analysis of Net General Revenue of Provincial Governments, 1949 and 1950

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Source	1949	1950 ¹	Source	1949	1950 ¹
	\$'000	\$'000		\$'000	\$'000
Taxes.....	417,828	478,508	Non-revenue and surplus receipts.....	2,770	1,893
Privileges, Licences and Permits—			Totals.....	840,601	952,453
Motor-vehicles.....	58,198	67,060			
Other.....	119,821	139,650			
Sales and services.....	20,222	23,387	SUMMARY OF LIQUOR CONTROL REVENUE (included above)—		
Fines and penalties.....	2,230	2,439	Sales tax.....	1,477	1,608
Other Governments—			Permits.....	25,932	25,031
Dominion-Provincial Taxation Agreement..	81,421	97,240	Fines and penalties.....	723	663
Dominion subsidies.....	25,541	25,300	Profits.....	106,803	114,505
Municipalities.....	865	851	Confiscations.....	37	27
Government enterprises...	110,619	115,425	TOTALS.....	134,972	141,834
Other revenue.....	1,086	700			

¹ Includes Yukon Territory.

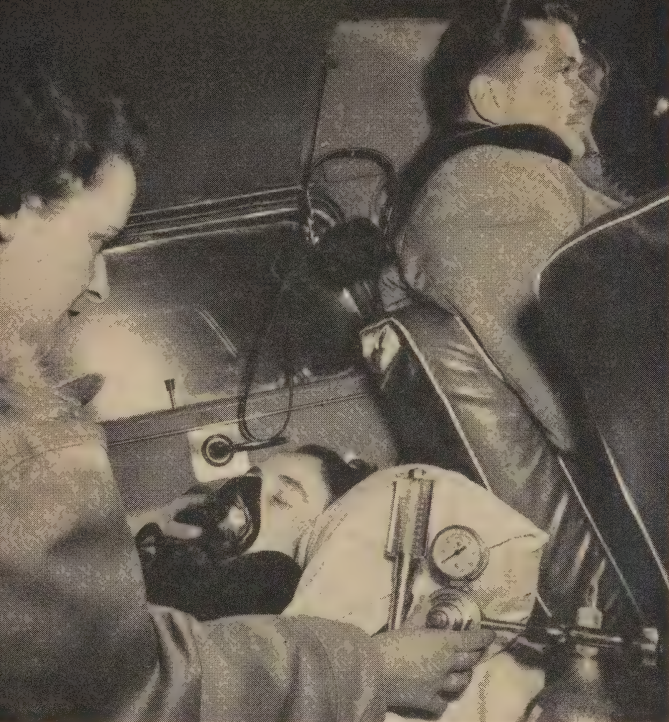
Analysis of Net General Expenditure of Provincial Governments, 1949 and 1950

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Function	1949	1950 ¹	Function	1949	1950 ¹
	\$'000	\$'000		\$'000	\$'000
General government.....	32,672	37,042	Contributions to Municipal Governments—		
Protection of persons and property.....	45,866	50,783	Shared-revenue.....	11,079	12,788
Transportation and communications.....	253,701	249,958	Subsidies.....	3,797	3,807
Health.....	143,051	158,142	Contributions to government enterprises.....	13,687	11,754
Social welfare.....	80,053	86,869	Other expenditures.....	5,324	8,110
Recreation and cultural services.....	5,654	5,768	Sub-Totals.....	923,000	1,006,739
Education.....	160,253	183,115	Non-expense and surplus payments.....	2,034	2,502
Natural resources and primary industries.....	60,139	71,934	Totals.....	925,034	1,009,241
Trade and industrial development.....	5,094	5,667	<i>Less Debt Retirement (included above).....</i>	<i>48,677</i>	<i>66,937</i>
Local government planning and development.....	1,289	1,500	Totals, exclusive of Debt Retirement....	876,357	942,304
Debt charges.....	101,341	119,502			

¹ Includes Yukon Territory.

Both the net direct and the net indirect debt of the combined provinces in 1951 advanced 10 p.c. over the previous year. The increase in direct debt was general to all provinces except Quebec, which showed a slight decrease, and Alberta, which continued its policy of debt reduction while revenue—particularly from the Province's oil resources—remained high. The pattern of change in the indirect debt of the provinces in 1951 was less consistent. That year the indirect debt of New Brunswick, Quebec, Manitoba, Saskatchewan and British Columbia was reduced, while each of the other provinces recorded an increase.



Administering oxygen to a patient being brought to hospital from an outlying point in a provincial government air-ambulance.

Details of Net Direct and Net Indirect Debt of Provincial Governments (less Sinking Funds), 1950 and 1951

NOTE.—Figures are as at fiscal year ends nearest Dec. 31.

Detail	1950	1951	Detail	1950	1951
	\$'000	\$'000		\$'000	\$'000
Direct Debt—			Indirect Debt—		
Bonded debt.....	1,946,505	2,211,084	Guaranteed Bonds..	787,152	900,558
Less Sinking funds..	308,114	364,929	Less sinking funds..	5,413	4,885
Net Bonded Debt.	1,638,391	1,846,155	Net Guaranteed Bonds.....	781,739	895,673
Treasury Bills (held by)—			Guaranteed bank loans.....	23,088	23,073
Federal Government	89,664	85,743	Municipal Improvement Assistance Act loans.....	4,212	3,945
Others.....	63,587	67,379	Other guarantees....	51,332	24,918
Totals, Treasury Bills.....	153,251	153,122	Totals, Net Indirect Debt.....	860,371	947,609
Savings certificates and deposits.....	1,770	1,548	Grand Totals...	2,865,442	3,145,152
Temporary loans and overdrafts.....	5,071	996			
Bonds due.....	301	377			
Bond interest due...	1,419	1,057			
Accounts and other payables.....	182,577	169,517			
Accrued expenditures	21,729	24,771			
Other liabilities.....	562	—			
Totals, Net Direct Debt.....	2,005,071	2,197,543			

Net Direct and Net Indirect Debt of Provincial Governments (less Sinking Funds), by Province, 1950 and 1951

NOTE.—Figures are as at fiscal year ends nearest Dec. 31.

Province or Territory	Direct Debt		Indirect Debt	
	1950	1951	1950	1951
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	4,397	5,352	5,867	31,392
Prince Edward Island.....	15,716	17,562	238	297
Nova Scotia.....	162,404	175,502	3,814	4,914
New Brunswick.....	151,473	166,240	12,615	10,029
Quebec.....	368,380	361,638	310,044	299,014
Ontario.....	684,212	805,316	492,899	571,295
Manitoba.....	116,649	140,165	1,103	440
Saskatchewan.....	161,886	163,984	805	800
Alberta.....	116,032	104,924	4,121	5,905
British Columbia.....	223,902	256,752	28,865	23,523
Yukon Territory.....	20	108	—	—
Totals.....	2,005,071	2,197,543	860,371	947,609

Gross Provincial Bonded Debt, by Currency of Payment, 1950 and 1951

NOTE.—Figures are as at fiscal year ends nearest Dec. 31. Bonded debt of other authorities assumed by provincial governments is excluded.

Payable in—	1950	1951
	\$'000	\$'000
Canada, only.....	1,421,651	1,450,160
London (England) only.....	19,359	16,643
London (England) and Canada.....	2,974	3,499
New York only.....	16,875	265,025
New York and Canada.....	300,867	296,047
London (England), New York and Canada.....	183,014	177,945
Totals.....	1,944,740	2,209,319

Provincial Government administration building newly completed at Regina, Sask.



Municipal Finance

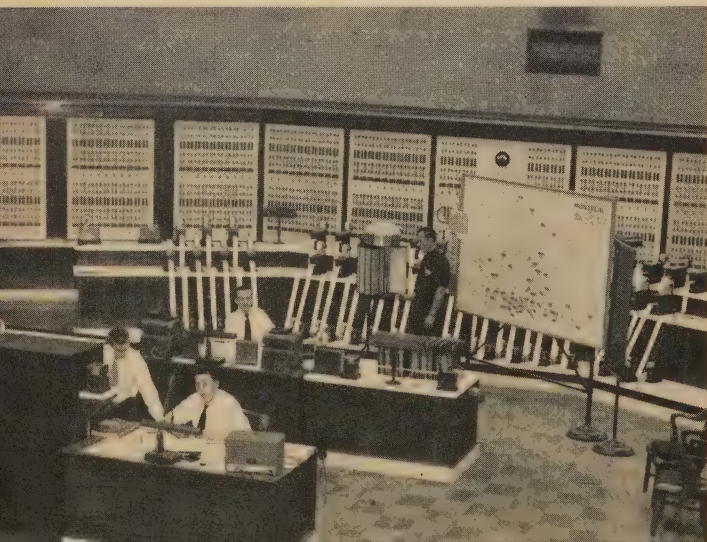
At the end of 1951, there were 4,137 incorporated municipalities in Canada varying greatly in size, population and population density. They are classified as: (1) municipalities in metropolitan areas, whether urban or rural in character or organization; (2) other urban; and (3) other rural. Many of the larger municipalities delegate authority to subsidiary boards to supervise specific activities or services, such as utilities, health services and community planning. A few combine with other municipalities to unify services for an area. In sparsely settled areas, services are administered by the province concerned. Local government in the Territories exists in modified form in a few settlements.

In most provinces the municipalities levy the local taxation for school authorities but exercise little or no control over school administration or finance. In much of Quebec and Prince Edward Island and in limited areas of some other provinces, school authorities levy and collect local taxes.

Municipal governments have felt, as have other levels of government, the effects of post-war expansion, with resultant increases in taxation, ordinary expenditure and capital expenditure. The volume of the latter has led to rapid growth in debenture debt since 1946 in urban areas to finance services required by expanding populations, reversing the downward debt trend of the period 1932-46.

Municipal Revenue and Expenditure.—Estimated municipal revenue for 1951 was \$656,600,000; 70.0 p.c. was derived from taxes on real property, 13.6 p.c. from other taxes, and the remaining 16.4 p.c. from licences and permits, public utility contributions and provincial subsidies, etc.

Support of local schools currently requires the largest expenditure by municipal governments. In 1951 total expenditures were \$651,100,000 and the proportion of the total spent on education services was 30.8 p.c. Other services took 54.2 p.c. and debt charges, together with provisions for debt repayment, 15.0 p.c. In 1939 expenditures of \$329,038,000 were divided as follows: 25 p.c. for school support, 48 p.c. for other services and 27 p.c. for debt charges and debt retirement.



Fire protection is an essential municipal service. Montreal has a vast signal alarm system which not only enables the fire-fighting equipment to reach the scene in a matter of seconds, but also alerts hospitals, the aqueduct, public utility, tramways and newspaper offices.



Halifax, Nova Scotia's capital, is justly proud of its historic Public Gardens, an 18-acre expanse of lawns and lakes, trees and flowers.

Municipal Assessed Valuations, Tax Levies, Collections and Receivables, 1941-51, and by Province, 1951

Year and Province	Valuations on which Taxes were Levied	Tax Levies	Tax Collections (Current and Arrears)	Percentage of Levies to Collections	Total Taxes Receivable and Property Acquired for Taxes
	\$'000	\$'000	\$'000		\$'000
1941.....	7,859,415	272,458	237,680 ¹	104.6 ¹	237,133
1943.....	7,906,826	278,697	298,196	107.0	192,777
1945.....	8,155,068	291,693	..	..	134,021
1947 ²	6,237,747	259,941	255,748	98.4	79,482
1948 ²	6,504,665	291,680	287,793	98.7	81,386
1949 ²	7,232,125 ³	334,138	325,109	97.3	87,423
1950 ¹	10,251,875	367,554	356,838	97.1	97,072
1951					
Newfoundland.....	..	1,454	1,348	92.7	405
Prince Edward Island	33,190	1,073	998	93.0	289
Nova Scotia.....	290,448	16,531	15,899	96.2	4,879
New Brunswick.....	361,397	12,580	12,117	96.3	4,296
Quebec.....	3,667,165	143,690	..	..	26,645
Ontario.....	4,410,042	228,920	221,231	96.6	26,628
Manitoba.....	620,502	36,416	34,736	95.4	11,580
Saskatchewan ⁴	928,314	39,592	37,656	95.1	21,435
Alberta ⁴	879,821	46,065	44,066	95.7	23,380
British Columbia....	658,828	43,191	42,747	99.0	9,295
Totals, 1951⁴....	11,849,707	569,512	410,798	72.1	128,832

¹ Excludes Quebec cities and towns.

² Quebec not included as information not available.

³ Includes cities and towns only for Quebec.

⁴ Information for Local Improvement Districts for Saskatchewan and Alberta has been included for years 1950 and 1951.

Direct and Indirect Liabilities of Municipal Governments (less Sinking Funds), by Province, 1949-51

Province	1949		1950		1951	
	Direct	Indirect	Direct	Indirect	Direct ¹	Indirect
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	3,312	..	3,589	..	4,002	..
Prince Edward Island.....	2,495 ²	..	3,031 ²	..	3,461 ²	..
Nova Scotia.....	31,736 ²	829	37,494 ²	1,129	46,437	756
New Brunswick.....	32,854	669	37,402	652	44,917	2,278
Quebec.....	..	..	..	..	549,262	7,312
Ontario.....	348,568	15,907	421,843	13,196	538,118	11,919
Manitoba.....	46,735	8,032	52,896	7,569	77,588	868
Saskatchewan.....	35,013	..	41,038	..	47,081	..
Alberta.....	76,364	..	103,317	..	119,464	..
British Columbia.....	110,162	17,040	116,299	17,001	153,141	5
Totals.....	687,239	42,477	816,909	39,547	1,583,471	23,138
Grand Totals.....	729,716		856,456		1,606,609	

¹ Includes some debt previously shown as Indirect Debt. schools.

² Exclusive of rural

Municipal Bonded Debt and Sinking Funds, Certain Years 1919-47, and by Province, 1932, 1950 and 1951

Year	Gross Bonded Indebtedness	Total Sinking Funds	Province	Gross Bonded Indebtedness		
				1932 ¹	1950 ²	1951 ³
	\$'000	\$'000		\$'000	\$'000	\$'000
1919.....	729,715	4	Newfoundland.....	..	3,001	3,646
1925.....	1,015,950	4	Prince Edward Island.....	2,129	3,302	3,740 ⁵
1930.....	1,271,390	4	Nova Scotia.....	31,606	42,797	49,191
1935.....	1,372,026	267,709	New Brunswick.....	24,753	41,402	47,354
1938.....	1,302,201	269,736	Quebec.....	463,614	..	444,256
1939.....	1,280,856	272,010	Ontario.....	504,756	363,578	458,506
1940.....	1,244,001	259,343	Manitoba.....	92,471	55,038	72,450
1941.....	1,196,491	261,459	Saskatchewan.....	59,238	32,035	35,639
1942.....	1,136,897	258,064	Alberta.....	76,892	80,428	102,916
1943.....	1,074,777	254,864	British Columbia.....	129,333	146,351	174,567
1944.....	1,006,936	178,780				
1945.....	965,450	168,365				
1946.....	503,426 ⁵	118,964 ⁵	Totals.....	1,384,792	767,932⁵	1,392,265
1947.....	515,066 ⁵	119,063 ⁵				

¹ Debt for rural schools in the Maritimes not included.

² Excludes rural schools in

Prince Edward Island and Nova Scotia.

³ Includes some debt previously shown as

Indirect Debt.

⁴ Sinking fund totals not available before 1934; Alberta showed net debt

to 1928.

⁵ Does not include Quebec.

⁶ Excludes rural schools.

• Banking

The Canadian banking system is a strong and stable structure with many outstanding features that have grown up since its foundations were laid more than a century ago. It consists of the Bank of Canada, which is a government-owned central bank, and eleven privately owned commercial banks competing among themselves for the domestic and foreign banking business of the Canadian people.

The Bank of Canada is the keystone of the structure. It was incorporated in 1934 as a central bank to regulate credit and currency, to control and protect the external value of the Canadian dollar and to stabilize the level of production, trade, prices and employment so far as may be possible within the

scope of monetary action. The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. It is empowered to buy and sell securities on the open market, to discount securities and commercial bills, to fix minimum rates at which it will discount, and to buy and sell bullion and foreign exchange. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and twelve Directors; the Deputy Minister of Finance is also a member of the Board.

The Industrial Development Bank, established in 1944, is a subsidiary of the Bank of Canada but operates as a separate entity. Its function is to supplement the activities of the chartered banks and other lending agencies by supplying the medium and long-term capital needs of small enterprises; the bank does not engage in the business of deposit banking. The extent of its operations is indicated by the following figures.

Loans, Investments and Guarantees of the Industrial Development Bank, by Province and Industry, as at Sept. 30, 1953

Province or Classification	Authorized	Out-standing	Classification	Authorized	Out-standing
Province	\$	\$	Industrial Enterprise—concl.	\$	\$
Newfoundland.....	—	—	Printing, publishing and allied industries	891,500	436,291
P.E. Island.....	66,000	51,145	Iron and steel products (incl. machinery and equipment)	5,743,592	3,531,672
Nova Scotia.....	519,762	385,103	Transportation equipment.....	2,832,855	1,774,110
New Brunswick.....	1,275,721	1,014,972	Non-ferrous metal products.....	469,500	305,149
Quebec.....	24,595,354	17,664,710	Electrical apparatus and supplies.....	2,755,100	1,427,516
Ontario.....	13,351,367	8,949,982	Non-metallic mineral products.....	2,804,881	2,006,581
Manitoba.....	2,076,750	1,142,195	Products of petroleum and coal.....	2,890,000	2,141,881
Saskatchewan.....	3,549,000	2,578,576	Chemical products..	8,322,763	6,206,619
Alberta.....	3,246,200	1,030,870	Miscellaneous manufacturing industries	1,191,000	749,126
British Columbia and the Territories.....	8,391,191	6,387,987	Refrigeration.....	3,626,805	2,599,389
Canada.....	57,071,345	39,205,540	Generation or distribution of electricity	315,000	80,000
Industrial Enterprise			Commercial air services.....	939,000	509,667
Foods and beverages..	5,719,352	357,236	Totals.....	57,071,345	39,205,540
Rubber products.....	50,000	45,000			
Leather products.....	727,500	3,582,475			
Textile products (except clothing).....	3,843,871	2,960,559			
Clothing (textile and fur).....	1,593,650	982,156			
Wood products.....	8,163,576	5,626,707			
Paper products (incl. pulp).....	4,191,400	3,883,406			

The commercial banks of Canada, whose main function is to provide a safe repository for savings and surplus funds and to furnish credit for carrying on the business of the country, have developed branch-banking to a high degree. The ten* banks in operation have branches across Canada, offices in many foreign countries and banking correspondents throughout the world. This type of system is particularly suited to a country such as Canada, vast in area and with a small but expanding population and an active foreign

* An eleventh bank, the Mercantile Bank of Canada, opened for business on Dec. 7, 1953

trade. Every community, regardless of location or size, is served by a branch of at least one bank through which the resources and facilities of a nation-wide institution are available. There are now 3,932 branches in Canada's ten provinces, as well as 116 offices in foreign countries, mostly in the United States, the United Kingdom, and Central and South America.

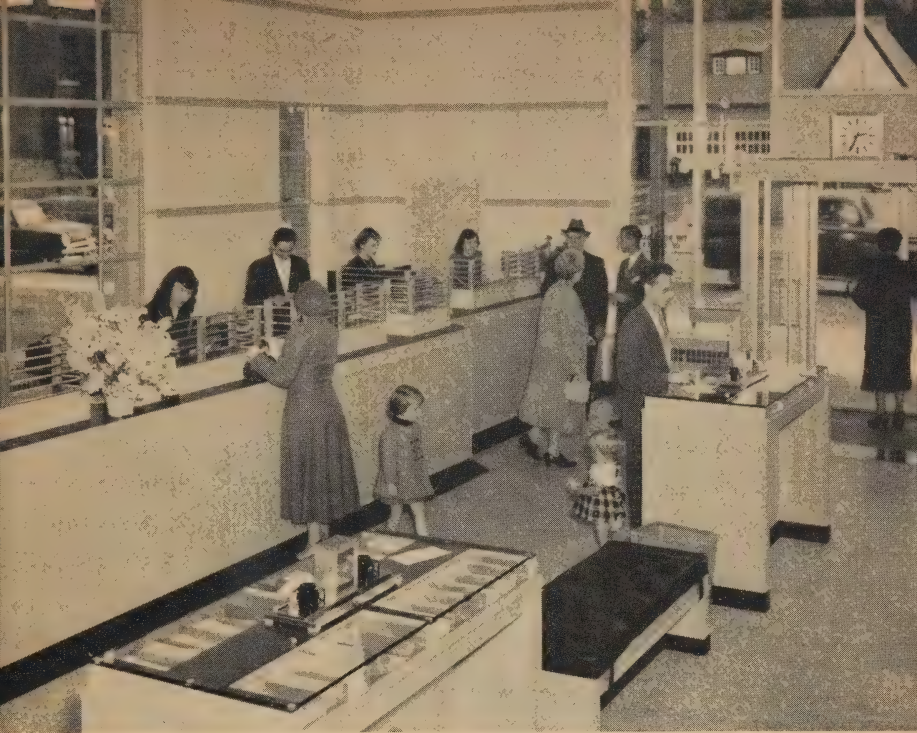
Canadian commercial banks are called 'chartered' because they receive a charter or licence from the Federal Government. They operate under one federal statute—the Bank Act. This Act is revised every ten years after public hearings by the Banking and Commerce Committee of the House of Commons, with the result that banking in Canada never becomes static or rigid but is adaptable to new needs, safeguards and economic conditions. The charters of the Canadian banks extend for only ten years and must be renewed at each decennial revision of the Act. An officer of the Department of Finance inspects the books and loans and securities of each bank once a year and may do so oftener. This inspection is in addition to that carried out by auditors appointed by the shareholders and reporting to them, and the continuous inspection by the banks' internal auditors.

Although Canadian banks are subject to close regulation by federal authorities, they are uncontrolled in their day-to-day business. Competition among them is keen. There is competition for deposits, loans and general banking services and competition in the opening of new branches, not only in the cities but in frontier areas. During the past ten years, 643 new branches were opened in various parts of Canada as the demands of a larger population and newly developed areas became evident.

The branch bank is a self-contained unit. It operates under the general supervision of its head office but has a full range of banking services, whether in a city or in a rural hamlet. The strength of the whole institution stands behind each branch, which is fully responsible for its commitments and undertakings. Excess funds from branches where deposits exceed loan requirements are credited to head office which, in turn, makes them available to branches where lending funds are needed. In this way, there can be no dearth of credit through lack of local funds.



The bank is an immediate necessity in every new community, regardless of location or size and Canada's branch-bank system facilitates the establishment of this service. Each small branch has behind it the resources of a nation-wide institution.



The establishment of many small branches brings banking facilities within easy reach of the residents in all parts of the larger centres.

The chartered banks are privately owned, there being 68,000 shareholders of the ten institutions operating in 1953 (most of them Canadians). In 1953, the shareholders' equity in the ten banks totalled \$412,500,000 and dividends averaged 4·9 p.c. There has been no bank failure since 1923 and note holders have experienced no losses whatever since 1881.

Statistics of Chartered Banks, Certain Years, 1930-53

NOTE.—These figures are averages computed from the twelve monthly returns.

Year	Branches in Canada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the Public	Loans and Dis- counts	Total Deposit Lia- bilities ²
	No.	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000
1930.....	4,246	3,237	305	2,910	2,065	2,517
1939.....	3,459	3,592	279	3,298	1,244	3,061
1945.....	3,240	6,743	282	6,439	1,505	6,160
1948.....	3,551	8,140	328	7,799	2,389	7,403
1949.....	3,658	8,658	333	8,310	2,618	7,922
1950.....	3,784	9,015	337	8,660	2,872	8,221
1951.....	3,871	9,385	347	9,020	3,496	8,465
1952.....	3,958	9,760	360	9,384	3,608	8,899
1953.....	4,049	10,335	378	9,946	4,215	9,483

¹ As at Dec. 31; includes sub-agencies which numbered 703 in 1952 (7 outside Canada).

² Excludes inter-bank deposits.

Statistics of Individual Chartered Banks, December 1953

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabilities to Shareholders	Liabilities to the Public	Loans and Discounts	Total Deposit Liabilities ²
	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Bank of Montreal....	602	2,416,504	2,415,799	348	918,336	2,228,485
Bank of Nova Scotia...	417	972,377	971,314	730	541,406	875,118
Bank of Toronto.....	248	576,454	576,133	49	229,824	531,815
Provincial Bank of Canada.....	350	203,377	203,196	108	84,105	190,441
Canadian Bank of Commerce.....	655	2,000,271	1,999,427	971	859,654	1,836,044
Royal Bank.....	794	2,854,511	2,852,995	1,210	1,140,396	2,600,147
Dominion Bank.....	184	534,049	533,406	370	281,844	479,366
Banque Canadienne Nationale.....	560	514,109	513,684	40	228,472	491,629
Imperial Bank of Canada.....	234	609,365	608,799	205	299,829	563,552
Barclay's Bank (Canada).....	4	37,712	37,501	—	8,268	22,624
Mercantile Bank of Canada ³	1	3,578	3,662	619	10	291
Totals.....	4,049	10,722,307	10,715,916	4,650	4,592,144	9,819,512

¹ Includes sub-agencies which numbered 703, including 7 outside of Canada.
inter-bank deposits.

³ Commenced business Dec. 7, 1953.

² Excludes

Volume of Money.—In recent years, the Bank of Canada has developed a presentation of statistics concerning the public holdings of certain liquid assets. These include notes and coin outside the banks, active and inactive bank deposits, and also Government of Canada securities which, though not used to make payments, are forms in which the public holds its liquid funds.

General Public Holdings of Certain Liquid Assets, as at Dec. 31 of Alternate Years, 1938-53

Dec. 31—	Currency and Active Bank Deposits	Inactive Chartered Bank Notice Deposits ¹	Government of Canada Securities ²	Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1938.....	1,131	1,472	3,228	5,831
1940.....	1,563	1,438	3,670	6,671
1942.....	2,349	1,436	5,344	9,129
1944.....	3,153	2,060	9,131	14,344
1946.....	3,996	2,856	11,175	18,027
1948.....	4,335	3,408	10,249	17,992
1950.....	4,851	3,861	10,066	18,778
1952.....	5,173	4,129	9,062	18,365
1953.....	5,024	4,239	9,355	18,618

¹ Estimated aggregate minimum quarterly balances in chartered bank personal savings deposits in Canada plus non-personal notice deposits in Canada.

² Holdings of all investors other than the Bank of Canada, chartered banks and Government of Canada accounts.

Cheque Payments.—Business operations consist of innumerable individual transactions, the great majority of which employs money either in the form of currency or as cheques drawn against bank deposits. It is estimated that about 80 p.c. of the commercial transactions are financed by cheque, the value of which serves as an excellent index of business conditions at any given time.

The Canadian aggregate value of cheques cashed has shown a continuous series of increases since 1938, the level reached in 1953 having been above that



The Manufacturers Life Insurance Company has shared in the spectacular post-war growth of life insurance business in Canada, having increased the amount of its business in force by \$500,000,000 from 1947 to 1952. The Company's Head Office in Toronto, with its recent eleven-storey addition, sets new standards for office accommodation.

of any previous year. The total was 344 p.c. greater than in 1938 and 194 p.c. above the inter-war record achieved in 1929.

Cheques Cashed at Clearing-House Centres, 1949-53

Economic Area	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$
Atlantic Provinces ¹ . . .	2,317,673,928	2,648,160,641	2,888,445,151	3,066,364,735	3,397,536,751
Quebec	24,732,489,732	29,106,858,312	32,728,719,454	35,494,559,222	38,139,426,225
Ontario	36,469,080,580	43,146,166,945	47,046,956,487	52,717,444,206	59,073,780,087
Prairie Provinces . . .	16,494,526,390	17,287,706,202	19,574,933,117	22,807,514,530	25,019,281,050
British Columbia . . .	7,540,592,213	8,446,566,739	9,945,578,848	11,111,011,328	11,786,822,545
Totals . . .	87,554,362,843	100,635,458,839	112,184,633,057	125,196,894,021	137,416,846,658

¹ Data for St. John's, Nfld., are included from April 1949.

The advance during 1953 was general throughout the country. Ontario showed the greatest increase gaining more than 12 p.c. over 1952; the Atlantic Provinces and the Prairie Provinces advanced about 10 p.c., Quebec 7·5 p.c. and British Columbia 6 p.c. Payments in the two largest centres, Toronto and Montreal, rose 16·3 p.c. and 7·8 p.c., respectively.

• Insurance

Life Insurance.—Life insurance business in Canada in 1952 continued the ever-increasing rate of expansion in evidence particularly since the end of World War II. The sale of life insurance, which combines both protection and savings, has been greatly influenced by the international unrest experienced during these years—uncertainty stimulates the human instinct to conserve against a time of emergency. Also Canada's impressive industrial expansion and the prevalent trend towards individual security has strengthened the demand for the services and protection of life insurance. During 1952, new business written, including industrial and group insurance, amounted to \$2,517,000,000, which brought the total life insurance in force in Canada at the end of the year to \$20,335,000,000. This represents an average of \$1,409 of insurance protection for every man, woman and child in the country. The amount of premiums paid to carry this insurance was \$451,000,000. Total benefits paid during the year to policyholders, including death claims, matured endowments, disability claims, dividends, surrender values and annuity payments were over \$263,000,000. Life insurance in Canada is actively transacted by 60 companies registered by the Federal Government, of which 31 are Canadian, 6 British and 23 foreign. There are also a few companies operating under provincial licence only.

Fire Insurance.—The growth of the fire insurance business has also been phenomenal and, though a good part of this growth may be attributed to the increase in the practice of insurance, it is also indicative of the advance in the amount and value of insurable property throughout the country. Fire insurance in force at the end of 1952 amounted to approximately \$41,000,000,000, premiums written amounted to \$157,000,000, and claims paid to \$69,000,000. At the end of 1952 there were 281 companies registered by the Federal Government transacting fire insurance business in Canada: 69 of these were Canadian companies, 84 British and 128 foreign.

Casualty Insurance.—Casualty insurance includes: accident (personal accident, employers' liability and public liability); aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery; guarantee; hail; impact by vehicles; inland transportation; live stock; personal property; plate glass; real property; sickness; sprinkler leakage; theft; water damage; weather; and windstorm.

The classes of casualty business accounting for the largest and most rapidly increasing premium income are automobile, personal accident and sickness, and personal property. Premiums written for these classes amounted to \$215,000,000 in 1952, and those for all classes of casualty to \$272,000,000. In 1952 there were 302 companies transacting casualty business, of which 75 were Canadian, 79 British and 148 foreign. The majority of these companies also reported fire business.

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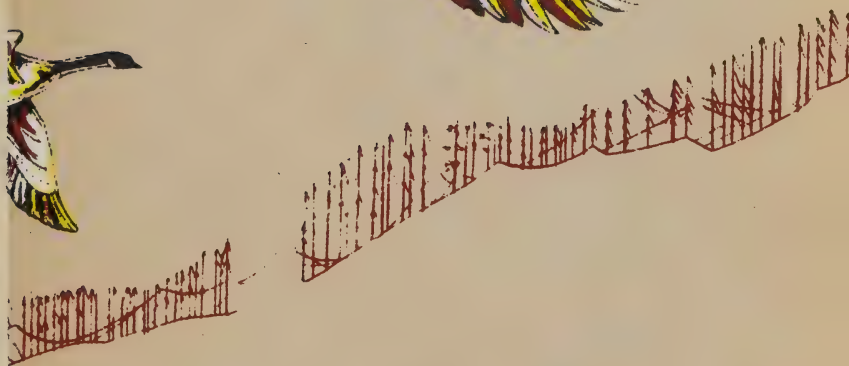
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I



CANADA
1955

THE CANADA GOOSE—

a large slow-flying grey-brown bird well-known to the sportsman. Though highly variable in size and shading, it is always recognizable by its black head and neck and conspicuous white cheek patches. It migrates everywhere across the continent but breeds mainly in Canada—its V-form flight is very common to the Canadian scene.





C. Robert Taylor

The Royal Road to Mount Revelstoke National Park on the summit of Mount Revelstoke, B.C., affords many spectacular and unforgettable views of surrounding mountain peaks and the Columbia River Valley.



The
OFFICIAL HANDBOOK
of
PRESENT CONDITIONS
and
RECENT PROGRESS

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Prepared in the
CANADA YEAR BOOK
SECTION
INFORMATION SERVICES
DIVISION
DOMINION
BUREAU OF STATISTICS
Ottawa

Published under the authority of
THE RIGHT HONOURABLE C. D. HOWE
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Price 75 cents

614951
14.7.55

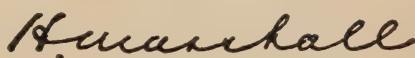
EDMOND CLOUTIER, C.M.G., O.A., D.S.P.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1955

Foreword

THE Canada Handbook was instituted in 1930 to give Canadians and peoples in other lands a concise, balanced, factual account of the annual progress of the Canadian nation and economy. In text, in table, in map and picture, *Canada 1955* (twenty-sixth in the series) seeks to portray the present conditions of the Canadian people, their country, government, cultural development and welfare. It endeavours to present the recent progress of the many-sided Canadian economy of to-day, the operation and achievements of which are based upon the rich natural wealth of Canada, the skill and enterprise of its business and industrial community, the far-flung network of transport and communication facilities, and the nation's specialized banking and financial methods. Many features of Canada's progress are an outgrowth of the country's continental heritage, geographic location and historic background, and differ from those developed in other countries.

Canada 1955 draws heavily from the same sources as the *Canada Year Book* for its facts: the several divisions of the Dominion Bureau of Statistics are a prime supplier and the various departments of government and non-governmental yet authoritative sources supplement the basic data. The illustrations are drawn from a wide range of governmental, commercial, press and private interests.

The Handbook is edited and produced in the Information Services Division, under the supervision of the Director of the Division, by Miss Margaret Pink, Assistant Editor of the Canada Handbook, and Mr. John F. McVea, Chief of the Canada Year Book Section.

A handwritten signature in dark ink, appearing to read 'H. Marshall', written in a cursive style.

Dominion Statistician

Dominion Bureau of Statistics,
Ottawa, March 31, 1955

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Acknowledgments

Grateful acknowledgment is made to all those who supplied information for this publication. Special thanks are extended to Dr. John Davis, Associate Director, Economics Branch, Department of Trade and Commerce, for background information and professional assistance in the preparation of the section on "Water Power", and to Mr. Walter B. Herbert of The Canada Foundation for the material on "Social and Cultural Relationships". The drafting of the map, "Physiographic Regions of Canada", was executed by Mr. A. J. Murphy, Engineering and Water Resources Branch, Department of Northern Affairs and National Resources, and the cover art work and silk-screen processing are by Screen Craft, Ottawa.

Acknowledgment is also made to the following sources for assistance in supplying photographic material:—

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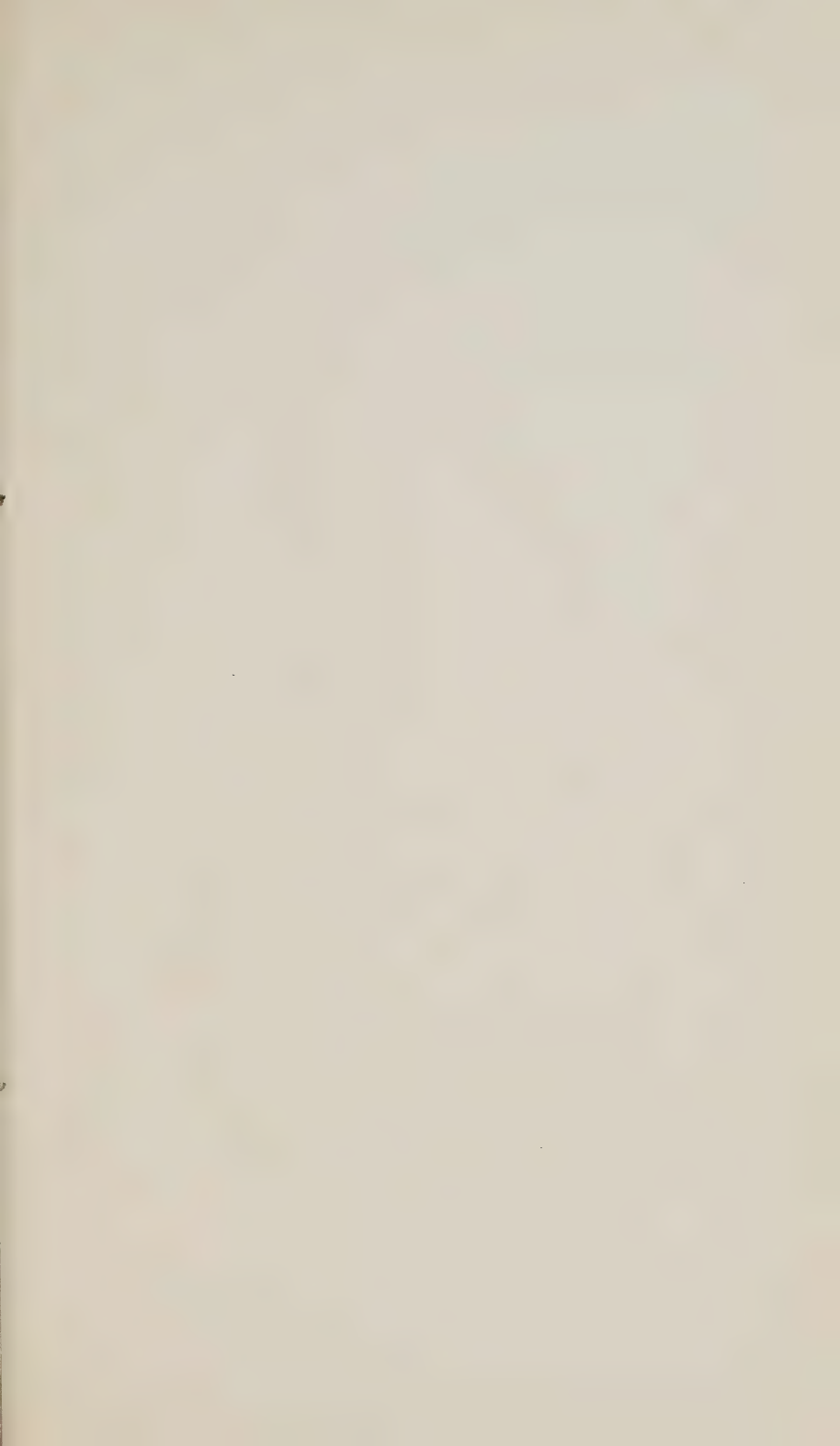
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Symbols

The interpretation of the symbols used in the tables throughout this publication is as follows:—

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- amount too small to be expressed or
where a "trace" is meant
- ^P figures are preliminary.





Photographic Survey Corporation

The beautiful Thousand Islands Bridge spans the St. Lawrence River and forms a much-travelled link between the Province of Ontario and the State of New York. Two islands of the St. Lawrence Islands National Park serve as stepping stones for the bridge as it reaches the Canadian shore and connects with the scenic section of the Montreal-Toronto highway between Brockville and Gananoque.

THE COUNTRY AND ITS GOVERNMENT

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From the earliest days of exploration, adventure and settlement, the name Canada has carried the aura of the vast mysteriousness and stark beauty of the "unknown country" that beckoned ever west and north—Croesus-rich in natural wealth, Atlas-like in enduring power.

Canada, in many ways, is still an unknown country; still—even in the crowded twentieth century—"the great lone land".

But today we watch the continued advance of the Canadian people to the uttermost confines of their continental heritage. Challenging extremes of distance, of climate, of natural barriers have been conquered and the last frontiers of Canada's Arctic North and the inmost reaches of the Precambrian Shield are yielding to the latest assault of a people on their destined march.

Even as the wonder of a Canadian spring tears the bounteous land with fervent sunshine from winter's grip, the snows dissolve in countless millions of flooding freshets, and the ice "goes out" with a roar on the huge inland seas and mighty waterways of Canada's vast interior, so Canada hastens into the summer of its maturity—its economic, social and political foundations stable beneath the floodtide of its progress.

The Country

CANADA is a northern country, occupying all that part of the North American Continent between the United States border and the North Pole, except for Alaska and Greenland which belong to the United States and Denmark, respectively, and the two small French possessions of St. Pierre and Miquelon in the Gulf of St. Lawrence. Westward from the Atlantic, Canada begins at Cape Spear, a promontory on the rugged coast-line of Newfoundland just east of the city of St. John's and the most easterly point of North America. The farthest west point is Mount St. Elias in Yukon Territory, the second highest elevation in Canada: between it and the Pacific Ocean lies the narrow strip of Alaskan Territory known as "the panhandle".

Canada's most southerly point is Middle Island, Ontario—a dot in Lake Erie—situated at 41°41' North latitude. The nearest mainland point to Middle Island is Point Pelee, a National Park and vacation centre. The northernmost point of land is Cape Columbia on Ellesmere Island, N.W.T., but the most northerly settlement is a little to the southeast of this, at Alert, a weather station 500 miles from the North Pole.

In all, Canada's territory covers 3,845,774 sq. miles; only the Union of Soviet Socialist Republics has a larger area. But size alone should not be considered without qualification. Only a small portion of this area lies south of the 49th parallel of latitude which forms the major part of the boundary between Canada and the United States, and about one-third of it lies north of the 60th parallel, the southern border of Yukon Territory and the mainland portion of the Northwest Territories. The developed part of the country is probably not more than one-third of the total, the occupied farm land is only 7.6 p.c. and the currently accessible forested land 16.1 p.c. Yet Canada, whose 15,195,000 people make up only two-thirds of one per cent of the world's population, ranks sixth among the industrial nations of the world.

Approximate Land and Fresh-Water Areas of the Provinces and Territories

Province or Territory	Land	Fresh Water	Total
	sq. miles	sq. miles	sq. miles
Newfoundland (incl. Labrador).....	147,994	7,370	155,364
Prince Edward Island.....	2,184	- -	2,184
Nova Scotia.....	20,743	325	21,068
New Brunswick.....	27,473	512	27,985
Quebec.....	523,860	71,000	594,860
Ontario.....	348,141	64,441	412,582
Manitoba.....	219,723	26,789	246,512
Saskatchewan.....	220,182	31,518	251,700
Alberta.....	248,800	6,485	255,285
British Columbia.....	359,279	6,976	366,255
Yukon Territory.....	205,346	1,730	207,076
Northwest Territories.....	1,253,438	51,465	1,304,903
Canada.....	3,577,163	268,611	3,845,774

The physical structure of a country is the basis of its development, governing the occurrence of its resources and therefore the location of its industries and the distribution of its population. The territory of Canada falls naturally into eight physiographic divisions as shown on the map on pp. 4 and 5.

• Physical Features

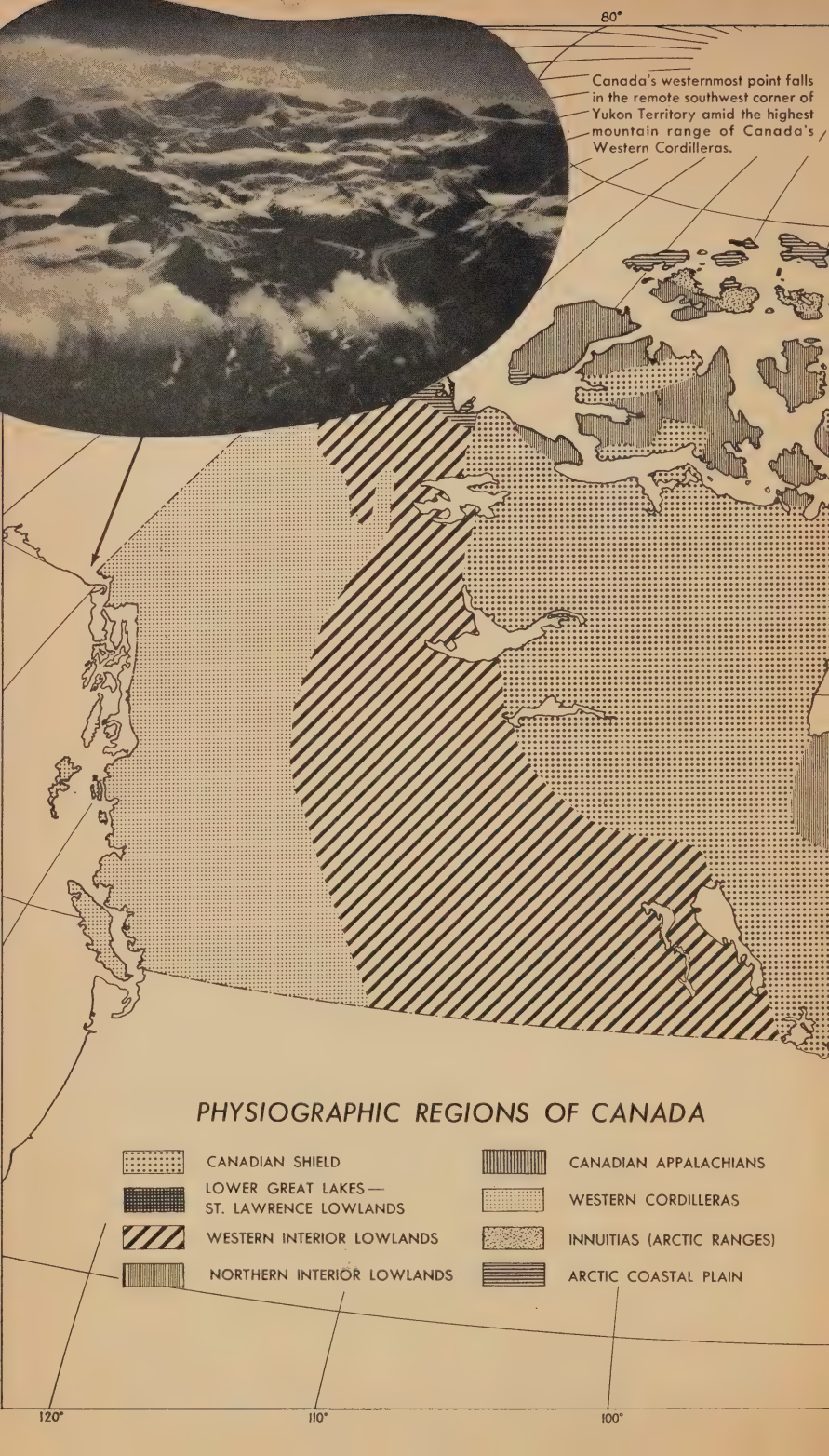
The Canadian Shield dominates the scene with its vast V-shaped area of 1,850,000 sq. miles surrounding Hudson Bay. Included in the Shield is the Labrador portion of Newfoundland and most of Quebec on the east, and northern Ontario on the south; the western boundary runs diagonally from Lake-of-the-Woods northwest to the Arctic Ocean near the mouth of Mackenzie River. The eastern edge of the region is tilted up to form the Torngat Mountains of Labrador and the mountains of Baffin Island, with heights of over 5,000 feet. In other parts the surface is hilly, the harder rocks rising as rounded knobs or ridges and the softer parts forming valleys generally occupied by lakes. The whole gives the appearance of a somewhat dissected plain, for all the hills rise to about the same level having a uniform skyline at the horizon. The Shield is Canada's principal source of iron, gold, nickel and radio-active metals and has, as well, important occurrences of copper, lead and zinc. It is generally higher on its outer edges and the rivers flowing outwards toward the Great Lakes, the St. Lawrence or the Atlantic follow precipitous courses and are the sources of hydro power for Ontario and Quebec. Advancing northward, the dense forests of the southern portions thin out until finally the timber line is reached around the 59th parallel of latitude. Beyond this are the tundra regions.

Flanking the Shield to the south and southeast is the Great Lakes-St. Lawrence Lowlands region, a flat and fertile plain that occupies the triangular area lying between Georgian Bay and Lake Ontario and taking in the St. Lawrence valley east as far as Quebec city. The real wealth of this district lies in its fertile soil and moderate climate, which permit the growth of all the products of temperate regions. In addition, the immense water-power potential of this area is a major asset. The Lowlands comprise Canada's smallest region but support nearly two-thirds of the country's population.

The Western Interior Lowlands region is part of the great plains of the interior of the continent that stretch from the Gulf of Mexico to the Arctic Ocean. In Canada the region occupies the depression between the Shield and the Rocky Mountains and is about 800 miles wide at the United States border,

A Federal Government palaeontologist examining fossils from the carboniferous rocks of southwestern Alberta, collected during the course of his normal field work.





80° 70°
eological station
m the North Pole.



Farthest east, the rugged coast
of Newfoundland
faces the broad Atlantic.



Point Pelee—the southernmost main-
land point of Canada — stretches
into Lake Erie.

80°

tapering to 100 miles at the mouth of the Mackenzie River. The plains have three levels, sloping eastward from an elevation of 4,000 feet in western Alberta to about 500 feet in southern Manitoba. The three steps are united by the great arms of the Saskatchewan River flowing from the Rockies to Lake Winnipeg and also by the soil zones which form broad west-east arcs. This is Canada's great wheat-growing area and contains as well the vast oil, gas and coal resources of Western Canada.

The Canadian Appalachians are part of the great range of old mountains extending from the island of Newfoundland through the Maritime Provinces and southeast Quebec and into the United States. Elevation over the whole area is moderate, not more than 4,200 feet—the elevation of Mount Jacques Cartier in central Gaspé. The river valleys, with the fertile plains of the sheltered basins, are particularly valuable for cultivation. Important deposits of base metals, coal and asbestos occur in widely separated areas and the hills of the region are forest-clad, providing diversified industries for this eastern area.

The Western Cordilleras comprise the mountainous country bordering the Pacific Ocean. The region has an average width of 400 miles and an area of 600,000 sq. miles and is made up of three zones. On the east is the Rocky Mountain Range with elevations of from 10,000 to 12,000 feet; on the west the Coast Range rises abruptly from the coast to peaks of from 7,000 to 19,850 feet; and between the two is a belt of upland and mountainous country. The Western Cordillera is complex in structure and has a wide range of resources. Most important are the copper, lead and zinc metals, which are found in abundance, as well as coal and oil. To this wealth of minerals may be added a vast hydro-electric potential and dense, extensive forests. Intensive agriculture is limited except on the Fraser delta and in some of the interior valleys.

Low-lying areas bordering the west and south coasts of Hudson Bay and most of the Canadian Arctic islands form the other three regions: the Northern Interior Lowlands, the Arctic Ranges, and the Arctic Coastal Plain. These areas are at present of little economic value.

• *Water Resources*

The fresh-water area of Canada is very extensive, constituting almost 7 p.c. of its total area. The greater portion of the country is lavishly strewn with lakes of all sizes, from bodies of water hundreds of miles long and hundreds of feet deep to ponds lost to sight in the forest. The largest and most numerous lakes occur within five hundred to a thousand miles of Hudson Bay, the most outstanding being, of course, the Great Lakes whose combined area of 95,170 sq. miles is shared with the United States. But many other lakes, all of them within the Canadian Shield, have the right to be called "great lakes". Lake Winnipeg, Great Slave Lake and Great Bear Lake range in area from 9,000 sq. miles to 12,000 sq. miles. In fact many parts of the Shield have the appearance of a drowned area with only the ridge tops appearing, water from one basin simply spilling over into another below. In an area of 6,094 sq. miles, accurately mapped, south and east of Lake Winnipeg, there are 3,000 lakes. In the Western Cordilleran region, however, the lakes are long, narrow and deep, in reality sections of mountain valleys occupied by fresh water.



Moving westward across southern Alberta, the flat prairie gives way to rolling hills that gradually become more riotous until they blend into the majestic tumult of the Rocky Mountains.

In Eastern Canada, the Great Lakes and St. Lawrence drainage basin dominates all others and forms an unequalled system of navigable waterways through a region rich in natural and industrial resources for a distance of 2,280 miles into the heart of the continent. Its tributaries, most of which have lakes that serve as reservoirs, have large developed and potential power resources. This waterway has played a measureless part in the economic and political history of Canada and is destined for a role of still greater significance.

The greater part of Canada, however, drains into Hudson Bay and the Arctic Ocean; the Nelson River basin includes the Saskatchewan River systems and thus the most arable and the most settled part of Western Canada, but, like most of the rivers east of the Rockies, the Saskatchewan drains from the settled areas towards the cold northern salt waters, a fact that lessens its industrial utility. The Mackenzie River, which drains Great Slave Lake, is, with its headwaters, the longest river in Canada (2,635 miles) and its valley constitutes a natural transportation route to the Arctic Ocean.

The divide between the rivers flowing west and those flowing north and east is very sharp in the southern Rocky Mountains. The rivers flowing west into the Pacific are much shorter and reach the coast through deep valleys and canyons; these are the great sources of hydro power.

• Land Resources

Agricultural land in Canada has been developed on a substantial scale and is well distributed from east to west. It is characterized by a diversity of contour, soil and climate and is thus capable of producing a great variety

of crops to an extent well beyond domestic requirements. Of the total land area of 3,577,163 sq. miles, 15.5 p.c. is estimated as suitable for cultivation and of this area a little less than half is at present occupied. Most of the unoccupied land considered potentially suitable for agriculture is now under forest. Altogether about 42 p.c. of the land area of the country is forested and the remainder, which is classified as waste and other land, includes open muskeg, rock, road allowances, urban land, etc.

About 10 p.c. of the total land area of Canada has been alienated from the Crown and is now in private hands, 42 p.c. is under federal administration and the remainder is under provincial administration. The high percentage of federal land is accounted for by the fact that the Yukon and Northwest Territories, which comprise 40 p.c. of the land surface of the country, are under the jurisdiction of the Federal Government. Other federal lands include National Parks and historic sites, forest experiment stations, experimental farms, Indian reserves, ordnance lands, etc. All unalienated lands within the provincial boundaries are administered by the provincial governments.

National Parks.—Of outstanding importance in the recreational life of the country are Canada's National Parks, areas of natural beauty and special interest that have been set aside for the benefit and enjoyment of the Canadian people and visitors from other countries.

The Parks had their beginning in 1885 when an area of 10 sq. miles around the hot mineral springs at Banff, Alta., was reserved for public use. Since then the system has been extended to include an area of more than 29,000 sq. miles in 28 separate units—scenic and recreational parks, wild animal parks set aside for the protection and propagation of species in danger of extinction, and national historic parks. In addition, about 450 sites of historic importance have been marked. The Parks are supervised by the National Parks Branch, Department of Northern Affairs and National Resources. Many of them are easily accessible by highway, rail or air and offer every type of accommodation from camping facilities to palatial hotels and cosy cabins. Their names and areas are as follows:—

<u>Park</u>	<u>Area</u>	<u>Park</u>	<u>Area</u>
	sq. miles		sq. miles
Scenic		Wild Animal	
Jasper, Alta.....	4,200.0	Wood Buffalo, Alta. and N.W.T.....	17,300.0
Banff, Alta.....	2,564.0	Elk Island, Alta.....	75.0
Prince Albert, Sask.....	1,496.0		
Riding Mountain, Man.....	1,148.0	Historic	
Kootenay, B.C.....	543.0		acres
Glacier, B.C.....	521.0	Fortress of Louisburg, N.S.....	339.5
Yoho, B.C.....	507.0	Fort Lennox, Que.....	210.0
Cape Breton Highlands, N.S.....	390.0	Fort Beauséjour, N.B.....	81.3
Waterton Lakes, Alta.....	204.0	Fort Prince of Wales, Man.....	50.0
Mount Revelstoke, B.C.....	100.0	Fort Battleford, Sask.....	36.7
Fundy, N.B.....	79.5	Fort Anne, N.S.....	31.0
Prince Edward Island, P.E.I.....	7.0	Port Royal, N.S.....	20.5
Point Pelee, Ont.....	6.0	Lower Fort Garry, Man.....	12.8
Georgian Bay Islands, Ont.....	5.4	Fort Wellington, Ont.....	8.5
St. Lawrence Islands, Ont.....	189.4	Fort Malden, Ont.....	5.0
	(acres)	Fort Chambly, Que.....	2.5

Provincial Parks.—Six of the provinces have established Provincial Parks. Though many of them are undeveloped areas set aside in their natural state, some of the larger parks, especially in British Columbia, Quebec and Ontario, are highly developed and well served with hotels and other tourist accommodation and have organized recreational facilities. The total area of provincial

park land is about 43,864 sq. miles, located by province as follows: Quebec, 20,244 sq. miles; British Columbia, 14,087 sq. miles; Ontario, 5,079 sq. miles; Saskatchewan, 1,685 sq. miles; Alberta, 117 sq. miles; and Newfoundland, 48 sq. miles. In Manitoba, park developments are being carried out in some of the Province's forest reserves.

Canada's National Capital.—In 1855, the community of Bytown, which had grown up at the junction of the Ottawa and Rideau Rivers around the headquarters of the Royal Engineers commissioned to build the Rideau Canal, was incorporated and its name changed to Ottawa. Two years later, Ottawa, then a city of 10,000 people, was selected by Queen Victoria as the seat of the Government of Canada. Quebec, Montreal, Kingston and Toronto had each been for a while the Capital of Canada and each aspired to become the permanent Capital but, though they were all at the time more important centres, "in the judgment of Her Majesty" Ottawa combined "more advantages than any other place in Canada for the permanent seat of government". However, it was not until 1865 that the public services were moved to the new buildings erected originally by the Province of Canada and a proclamation issued fixing the Capital permanently at Ottawa. In 1867, when the Provinces of Nova Scotia and New Brunswick were joined with the Province of Canada, Ottawa became the Capital of the new Dominion which, within a decade, was extended from sea to sea.

Ottawa is to-day a city of 205,000 people dwelling in an area of 27,220 acres. Its early growth was comparatively slow because it was a city of government workers and did not encourage industry to any extent. Even now, of its labour force of approximately 90,000 people, 30,000 are employed by the Federal Government.

Nova Scotia's new wildlife park at Shubenacadie, opened July 1, 1954, is a source of entertainment and education for thousands of visitors.



Ottawa is a self-governing municipality but, as the political Capital, its planning and development has long been the concern of the national government. The splendour of its natural setting high above the river from which it took its name and facing the rolling horizon of the Gatineau Hills has been enhanced by the beauty and dignity of its public buildings, its driveways and its parks, making it one of the more picturesque Capitals of the world. Now a new Ottawa within a beautified preserve of some 900 sq. miles is growing from a master plan approved by Parliament in 1951. The National Capital Planning Committee, under the Federal District Commission, has made considerable progress in planning new buildings, removing crosstown railway tracks, rebuilding a main artery on which are located several national buildings and residences, acquiring land and constructing parkways. Gatineau Park, a 45,000-acre area in the Gatineau Hills just north of the city, a district long loved and widely used for recreational purposes by the people of Ottawa, has been set aside as a park and game sanctuary.

In the course of the years, through this plan, loftily conceived and far-seeing, allying the æsthetic and the practical, there will emerge a Capital that will be worthy of Canada's achievements and of the international role that is her future.

• *The Climate*

Because of its great extent, there are many variations of climate in Canada. Coastal British Columbia has the most moderate temperature régime in the country, midwinter temperatures averaging just above freezing and midsummer temperatures around 60°F. In the southern interior of the Province, temperatures are more extreme, averaging around 20° in midwinter and 65° in midsummer. Precipitation is variable. Some coastal areas receive more than 100 inches annually, winter being the rainy season, but in the lee of the mountain ranges and in the interior valleys precipitation is light.

The three Prairie Provinces are noted for their extremes of temperature. Values of -40° are common in winter and temperatures in the 90's are expected in summer. January temperatures average near zero in the settled portions and July averages 65°. Precipitation generally averages between 15 and 20 inches and, fortunately, the wettest period is normally in early summer when the agricultural need is greatest. Winter precipitation is usually in the form of snow and its water equivalent amounts to less than 25 p.c. of the annual precipitation.

Wide ranges of temperature are experienced in Ontario and Quebec. The northern portions average -10° in midwinter and 55° in midsummer and the southern sections average 15° and 65°, respectively. Extremes of -60° have occurred in the north in winter and values of 95° to 100° are common in the south in summer. The precipitation régime is quite uniform in both Provinces, average amounts being 20 to 30 inches in the northern sections and 30 to 40 inches in the south. Snowfall is abundant, exceeding 100 inches per annum immediately in the lee of the Great Lakes in Ontario and throughout most of Quebec.

In the Atlantic Provinces, January temperatures average 10° to 25° and July temperatures 60° to 65°, with extremes as high as 100° and as low as

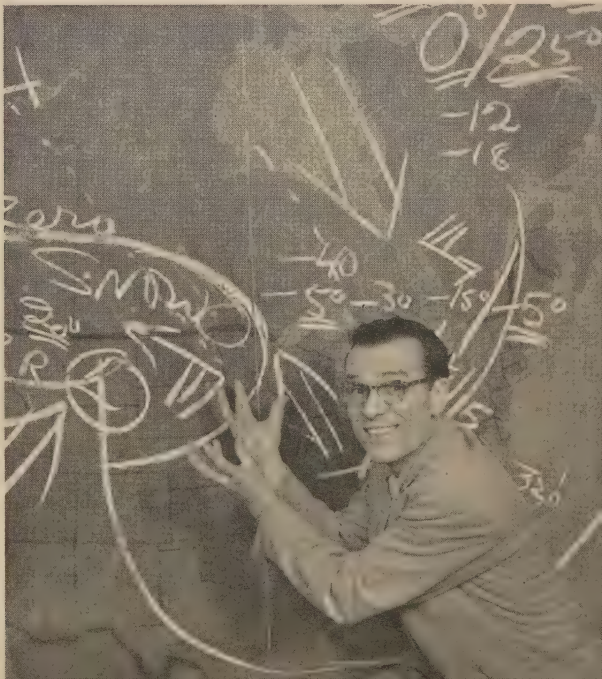
-40° in interior New Brunswick. Prince Edward Island, Nova Scotia and the Island of Newfoundland have less variation. Precipitation in the southern portion of the Atlantic Provinces averages about 50 inches annually, decreasing northward to about 20 inches in northern Labrador. The wettest seasons are autumn and winter.

Mean January temperatures in the Yukon and the Northwest Territories decrease from zero in the southern Yukon to below -30° on the far northern Arctic islands. In July the upper Mackenzie valley has temperatures which average over 60° while northwestern island temperatures average under 40°.

Temperature and Precipitation Data for Certain Localities in Canada

Station	Length of Record Yrs.	Temperature (deg. Fahrenheit)					Precipitation (inches)		
		Av. Annual	Av. January	Av. July	Ex-treme High	Ex-treme Low	Av. Annual	Driest Year	Wet-test Year
Gander, Nfld.....	14	39	19	62	91	-16	39.5	32.1	47.2
St. John's, Nfld.....	20	41	24	61	89	-10	53.1	40.9	61.8
Charlottetown, P.E.I....	30	42	19	67	98	-23	42.2	31.0	54.6
Halifax, N.S.....	30	44	24	65	94	-21	54.2	38.8	67.0
Sydney, N.S.....	80	43	23	65	98	-23	50.6	32.5	62.3
Saint John, N.B.....	30	42	20	62	93	-21	47.7	37.6	60.1
Arvida, Que.....	19	37	4	65	95	-42	38.8	31.8	46.5
Montreal, Que.....	30	44	15	70	97	-29	41.9	31.0	51.4
Port Arthur, Ont.....	30	37	8	63	104	-41	27.6	17.1	40.8
Toronto, Ont.....	30	47	24	71	105	-22	30.9	23.8	40.6
Churchill, Man.....	20	19	-16	55	91	-50	14.4	8.6	22.1
Winnipeg, Man.....	30	37	1	68	108	-44	19.7	14.0	24.5
Regina, Sask.....	30	37	2	67	110	-54	15.1	8.6	22.5
Beaverlodge, Alta.....	30	36	10	60	98	-53	17.3	10.0	23.4
Calgary, Alta.....	30	39	16	62	97	-46	17.5	9.6	29.8
Nelson, B.C.....	30	46	24	67	103	-17	28.5	18.1	38.9
Victoria, B.C.....	30	50	39	60	95	6	26.2	17.3	37.2
Dawson, Y.T.....	30	24	-16	60	95	-73	14.0	9.0	17.9
Coppermine, N.W.T....	19	12	-19	49	87	-58	10.9	7.8	19.7

Weather forecasts are issued at six-hour intervals by twelve regional weather offices across Canada. Bulletins are relayed to press agencies, radio stations and newspapers by teletype and are dramatized nightly over the CBC-TV network.





Her Majesty Queen Elizabeth the Queen Mother leaving the Parliament Buildings with the Hon. W. M. Robertson, Speaker of the Senate, and the Hon. L. R. Beaudoin, Speaker of the House of Commons, during her visit to Ottawa in November 1954

The Government

CANADA is a sovereign nation with a democratic system of government that combines the principles of federalism with the British parliamentary system of responsible or cabinet government. The distribution of power between the central governing body and the ten component provincial governments, as well as the jurisdiction of the courts, is set down in the British North America Act of 1867 and its amendments. Generally speaking, all matters of national concern are under the jurisdiction of the Federal Government, which is authorized to make laws for the peace, order and good government of the country and is given unlimited powers of taxation. The provinces have control over such items as education, the administration of justice, municipal institutions, provincial prisons and reformatories, hospitals and welfare institutions, the administration of public lands, property and civil rights and direct taxation within the province for provincial purposes.

The Parliamentary System

That the Canadian Constitution is founded on the British parliamentary system is evident in the fact that Parliament embraces the Queen, the Senate and the House of Commons; that the executive and legislative powers are in close identification through the control of administration by leaders of the parliamentary majority; and that the judiciary is virtually independent of control by either the executive or legislative branches of government. The Crown is the unifying symbol of all three spheres of power.

The Nation.—Though Her Majesty Queen Elizabeth II is “Queen of Canada”, her personal participation in the function of the Crown for Canada is necessarily reserved to such rare occasions as a royal visit or the periodic appointment of a personal representative on the advice of her Canadian Ministers. The Queen reigns but does not rule; rather, she symbolizes the continuity of the ancient traditions of the British constitutional monarchy and indeed of the law and custom of the Canadian Constitution.

His Excellency the Right Honourable Vincent Massey, C.H., Governor General of Canada.



The personal representative of the Queen in Canada is the Governor General, appointed by Her Majesty entirely on the advice of the Prime Minister of Canada and usually for a term of five years. He exercises such formal authority as summoning, proroguing and dissolving Parliament and assenting to Bills in the Queen's name. Canada's present Governor General, the Right Honourable Vincent Massey, C.H., is the first Canadian to hold this high office. He was appointed on Jan. 24 and assumed office on Feb. 28, 1952.

The active Canadian executive authority for controlling the exercise of the powers of the Crown resides in the Cabinet or Ministry composed of Members of Parliament, who hold office so long as they possess the confidence of the elected representatives of the people in Parliament.

A new House of Commons is elected at least once every five years under an adult franchise conferred upon Canadian citizens or British subjects, male and female, who have been resident in Canada for twelve months prior to polling day. A readjustment of representation follows each decennial Census of Canada. Provincial representation is now as follows:—

Newfoundland.....	7	Alberta.....	17
Prince Edward Island.....	4	British Columbia.....	22
Nova Scotia.....	12	Yukon Territory.....	1
New Brunswick.....	10	Mackenzie District, Northwest Territories.....	1
Quebec.....	75		
Ontario.....	85		
Manitoba.....	14		
Saskatchewan.....	17	TOTAL.....	265

The leader of the national party that has won a majority of the seats in a newly elected House of Commons forms a Ministry or Cabinet, the members of which are appointed by the Governor General but selected by the Prime Minister from among his party colleagues in such manner as to ensure as far as possible representation of the several regions of the country and its principal cultural and religious and social interests. The Cabinet is responsible for determining all important policies and securing the passage of such legislation, financial measures and administrative provisions as their supporters may approve. Members of the Cabinet as at Jan. 1, 1955, and the portfolios held by them were as follows, listed according to precedence:—

Rt. Hon. Louis Stephen St. Laurent.....	Prime Minister and President of the Queen's Privy Council for Canada.
Rt. Hon. Clarence Decatur Howe.....	Minister of Trade and Commerce and Minister of Defence Production.
Rt. Hon. James Garfield Gardiner.....	Minister of Agriculture.
Hon. Paul Joseph James Martin.....	Minister of National Health and Welfare.
Hon. James J. McCann.....	Minister of National Revenue.
Hon. Milton Fowler Gregg.....	Minister of Labour.
Hon. Lester Bowles Pearson.....	Secretary of State for External Affairs.
Hon. Stuart Sinclair Garson.....	Minister of Justice and Attorney General.
Hon. Robert Henry Winters.....	Minister of Public Works.
Hon. Hugues Lapointe.....	Minister of Veterans Affairs.
Hon. Walter Edward Harris.....	Minister of Finance and Receiver General.
Hon. George Prudham.....	Minister of Mines and Technical Surveys.
Hon. Alcide Côté.....	Postmaster General.
Hon. James Sinclair.....	Minister of Fisheries.
Hon. Ralph Osborne Campney.....	Minister of National Defence.
Hon. William Ross Macdonald.....	Solicitor General of Canada and Leader of the Government in the Senate.
Hon. John Whitney Pickersgill.....	Minister of Citizenship and Immigration.
Hon. Jean Lesage.....	Minister of Northern Affairs and National Resources.
Hon. George Carlyle Marler.....	Minister of Transport.
Hon. Roch Pinard.....	Secretary of State of Canada.

The Senate or Upper House of the Parliament of Canada shares with the House of Commons the responsibility for the enactment of all federal legislation in that Bills must pass both Houses before receiving Royal Assent through the Governor General. Yet the influence of the Senate on legislation is immeasurably less than that of the Commons in which most public Bills are introduced by the Ministry and to which the latter is responsible. The most striking evidence of this fact is that any Bill for the expenditure of any public money or the imposition of any tax must originate in the *elected* House, by custom, through the Cabinet. Nonetheless, the Senate has the power to perform a valuable service to the nation in amending and delaying the passage of measures that might result from sudden shifts in public opinion or party strength.

Canadian Senators are summoned for life by the Governor General, on the nomination of the Prime Minister, with equality of representation for four regional divisions. The representation in the Senate by divisions and provinces is as follows:—

Ontario.....	24	Western Provinces.....	24
Quebec.....	24	Manitoba.....	6
Atlantic Provinces.....	30	British Columbia.....	6
Nova Scotia.....	10	Alberta.....	6
New Brunswick.....	10	Saskatchewan.....	6
Prince Edward Island.....	4		
Newfoundland.....	6		
		TOTAL.....	102

Yukon Territory and the Northwest Territories lack representation at present in the Senate.

While the Ministers of the Crown carry the political responsibilities of their respective departments, the Federal Civil Service forms the staffs of the twenty departments and of various boards, commissions, bureaux and other agencies of the Government. The day-to-day administration of a department is handled by a permanent head, usually known as Deputy Minister. The great majority of the civil servants are recruited, classified and promoted by the Civil Service Commission of Canada.

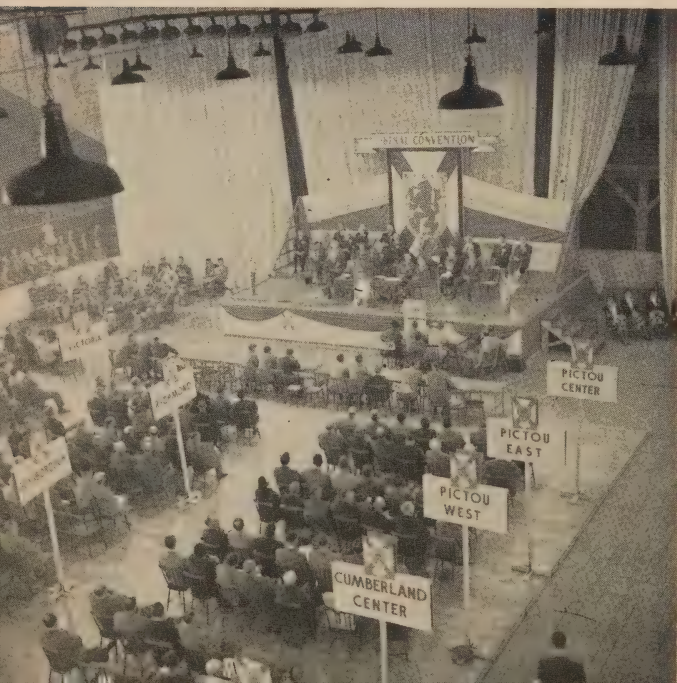
discussion panel of the first group of senior Civil Servants to attend a special four-week course in government administration held during the summer of 1954 at Kemptville Agricultural School, Ont.



The Provinces.—Similar political institutions and constitutional usages operate in the governments of the ten provinces as in that of the nation as a whole. In each province the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council, usually for a term of five years. The powers of the Lieutenant-Governor in the provincial sphere are essentially the same as those of the Governor General in the federal sphere.

The Legislature of each of the provinces comprises, in addition to the Lieutenant-Governor, an elected Legislative Assembly and, for Quebec only, a Legislative Council of 24 members appointed for life by the Lieutenant-Governor in Council. The franchise in provincial elections is granted, generally speaking, to every adult 21 years of age or over, although in Saskatchewan, Alberta and British Columbia the age is 18, 19 and 19, respectively. The conventions of Cabinet government operate in the Legislative Assembly of each of the provinces as in the House of Commons at Ottawa.

The Territories.—The vast northern and sparsely populated regions of Canada lying outside the ten provinces and comprising Yukon Territory and the Northwest Territories have attained both elected representation in the House of Commons and a measure of local self-government. The local government of Yukon Territory is composed of a chief executive, styled Commissioner, appointed by the Federal Government, and a locally elected Legislative Council of five members. The government of the Northwest Territories is vested in a Commissioner (who is the Deputy Minister of the Department of Northern Affairs and National Resources) assisted by a Council of nine members of whom four are elected by popular franchise in the Territories and five are appointed by the Federal Government from among federal officials at Ottawa.



The leader of a provincial political party is chosen by delegates from local party organizations in each riding. The successful candidate continues as leader whether his party is in or out of power until he resigns or is replaced.



RT. HON. LOUIS S. ST. LAURENT
Prime Minister of Canada

Leaders of the Federal and Provincial Governments



HON. L. M. FROST
Ontario



HON. M. L. DUPLESSIS
Quebec

The leader of the national political party winning a federal general election becomes the Prime Minister of Canada. Similar constitutional convention operates in filling the office of Premier in a provincial administration.



HON. H. J. FLEMING
New Brunswick



HON. H. D. HICKS
Nova Scotia



HON. D. L. CAMPBELL
Manitoba



HON. W. A. C. BENNETT
British Columbia



HON. A. W. MATHESON
Prince Edward Island



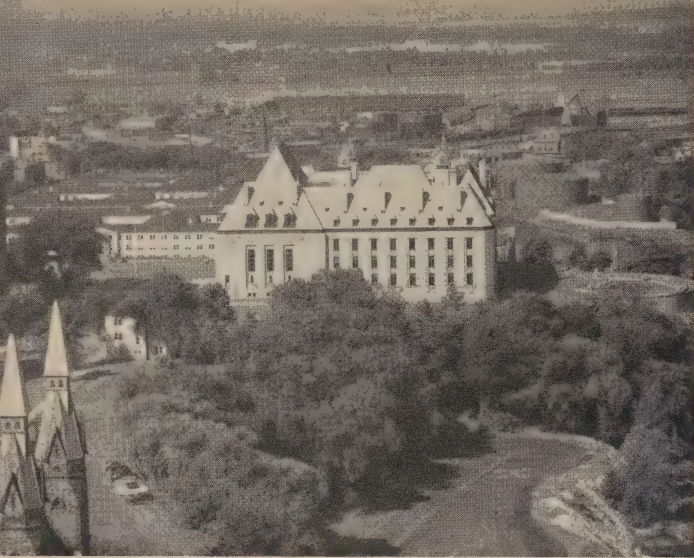
HON. T. C. DOUGLAS
Saskatchewan



HON. E. C. MANNING
Alberta



HON. J. R. SMALLWOOD
Newfoundland



The Supreme Court of Canada, viewed from the Peace Tower of the Parliament Buildings.

Local Government.—As local government at the municipal level falls under the jurisdiction of the provinces, there are ten distinct systems of municipal government in Canada, as well as many variations within each system. The variations are attributable to differences in historical development and in area and population density of the 4,196 incorporated municipalities. Possessing the power exclusively to make laws respecting municipal institutions, the provincial legislature of each province has divided its territory into varying geographical areas known generally as municipalities and more particularly as counties, cities, towns, villages, townships, rural municipalities, or municipal districts. Municipalities are incorporated by provincial legislation and have various powers and responsibilities suited to their classification. A municipality is governed by an elected council whose head may be called the mayor, reeve, warden or overseer, and the other citizens who are its members may be known as controllers, aldermen or councillors.

The responsibilities of the municipalities are generally those most closely associated with the citizen's everyday life, his well-being and his protection. To maintain these services, the municipality is empowered to place substantial tax levies on the citizen's property.

The Judiciary.—The Canadian judiciary interprets the law and administers justice. The provinces are authorized to administer justice in the territories under their jurisdiction, including the organization of civil and criminal courts and the establishment of procedure in civil matters in those courts. Legislation concerning criminal law and the procedure in criminal matters is under the jurisdiction of the Federal Parliament.

Judges of the superior, district and county courts in each province, except those of the courts of probate in Nova Scotia and New Brunswick, are appointed by the Governor General in Council and their salaries, allowances and pensions are fixed and paid by the Parliament of Canada.

The Supreme Court of Canada is the court of final appeal in Canada, and exercises general appellate jurisdiction throughout the nation in civil

and criminal cases. The jurisdiction of the Exchequer Court extends to cases embracing claims made by or against the Crown in the right of Canada. The Chief Justice of Canada and the puisne judges of the Supreme and Exchequer Courts are appointed by the Governor General in Council.

• *Canada's External Relations in 1954*

During 1954, as in previous years, the principal factors in Canada's external relations were membership in the United Nations and in the North Atlantic Treaty Organization, the close relationships between Canada and the other members of the Commonwealth and the United States, and the country's continuing interest in the maintenance of a high level of international trade. Canada also accepted a heavy new international responsibility as a member of the International Supervisory Commissions in Indo-China.

The United Nations.—Canada continued full support to the United Nations. An encouraging development during 1954 was the agreement with the Soviet Union to resume private discussions in the Disarmament Commission Sub-committee, and a procedure was accepted for organizing international co-operation in the peaceful utilization of atomic energy. Canadian representatives played a prominent part in the consideration of both these matters. Canada also participated fully in the efforts of the United Nations to bring about a satisfactory Korean settlement.

NATO and Western Europe.—One of the most important developments of the year in Canada's relations with Europe was the successful conclusion of a settlement providing for the association of the German Federal Republic with the Western Community. Canada was represented at the Nine-Power Conference at London (Sept. 23–Oct. 3), which was initiated by the United Kingdom following the decision of the French National Assembly to reject the European Defence Community Treaty, and at the Ministerial Meeting of the North Atlantic Council (Oct. 22–23) to which the various agreements reached at London were submitted for information and decision.

Under the settlement, the occupation of the German Federal Republic will be terminated and its sovereignty restored. It will be invited to become

Greek Air Force men take charge of aircraft supplies on their way from Canada to Greece. The provision of 82 F-86E Sabre jets together with spare engines and other equipment to both Greece and Turkey is part of Canada's program of mutual aid to NATO countries.



a member of a new Western European Union (based on a modified version of the Brussels Treaty of 1948). This new organization is designed to serve as a focus for European unity and co-operation and will have important powers for controlling and limiting the armed strength of its members. NATO's machinery will be strengthened to cover the new arrangements.

Canada's contribution of forces to NATO remained substantially the same in 1954 as in 1953. The RCN now has 36 ships in commission which will be assigned to NATO for the defence of the Canada-United States area and the protection of convoys. The Twenty-Seventh Canadian Infantry Brigade, stationed in Western Germany under the command of the Supreme Allied Commander in Europe, was replaced by the First Canadian Infantry Brigade. The First Canadian Air Division, also under the Supreme Allied Commander, was raised to 12 squadrons of jet fighters stationed in France and Germany. The cost of maintaining these forces is estimated at more than \$650,000,000 a year. In addition, Canada has contributed mutual aid to its European allies. Out of an appropriation of \$300,000,000 for the year ended Mar. 31, 1954, arms and equipment have been supplied—an increasing proportion from post-war production—and training provided in Canada for up to 1,200 NATO aircrew.

Commonwealth Affairs.—The Prime Minister, the Rt. Hon. Louis S. St. Laurent, paid visits to the three Asian members of the Commonwealth—Pakistan, India and Ceylon—during his trip around the world in February and March 1954. Mr. St. Laurent's visit served to strengthen further Canada's close relations with these countries and to emphasize the role of the Commonwealth as a bridge between the West and Asia.

It was announced on Nov. 4, 1954, that a meeting of Commonwealth Prime Ministers would be held at London beginning Jan. 31, 1955. These periodic meetings provide the heads of Commonwealth governments with an opportunity to review the international situation and to arrive at a deeper understanding of the approach of the various members to Commonwealth and to world problems.

Relations with the United States.—The most outstanding event of 1954 in the American field was that the St. Lawrence Seaway and Power Projects were finally begun after half a century of study and intermittent negotiations stretching over three decades. The Hydro Electric Power Commission of Ontario joined with the Power Authority of the State of New York to commence construction of power works in the International Rapids section of the St. Lawrence River and will develop 2,200,000 h.p., to be divided equally between the two bodies. Work on the 27-ft. waterway was also begun, following intergovernmental negotiations between Canada and the United States. Remedial works, to enhance and preserve the beauty of the falls at Niagara were also begun by the two countries.

The Far East.—At a meeting at Berlin in February, the Foreign Ministers of the United Kingdom, France, the United States and the USSR proposed a conference of their representatives at Geneva on Apr. 26 to reach a peaceful settlement of the Korean question. The conference would also include representatives of Communist China, the Republic of Korea, North Korea, and the other countries whose armed forces had participated in the Korean hostilities and who might desire to attend. The Canadian delegation to this

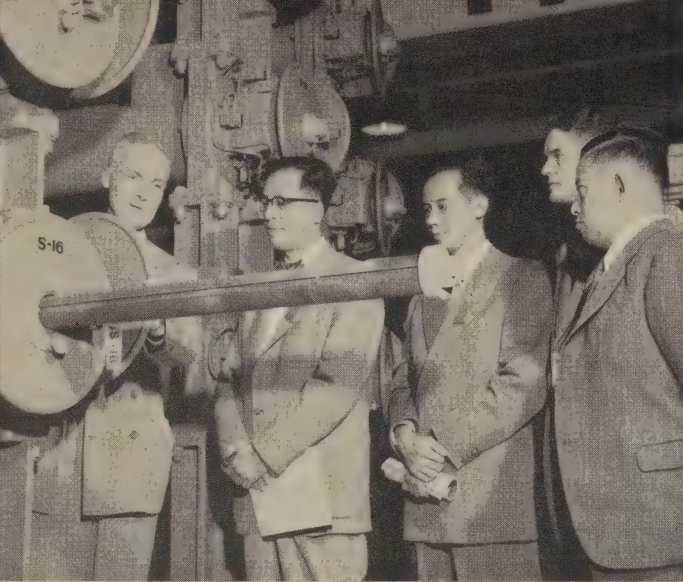


The 1954 meeting of the Consultative Committee on Co-operative Economic Development in South and Southeast Asia took place at Ottawa in October. Seventy delegates from fourteen Colombo Plan countries listen to the opening address in Canada's House of Commons.

Conference was headed by the Hon. L. B. Pearson, the Secretary of State for External Affairs. The Conference ended on June 15 as it was clear that the Communist representatives would neither recognize the legitimacy of the United Nations mission in Korea, nor accept a Korea unified on the basis of free elections under the supervision of 'an international agency genuinely neutral and acceptable to the United Nations, and that further consideration of the Korean question by the Conference would serve no useful purpose.

The Berlin Agreement also provided for consideration at Geneva of the Indo-China problem by representatives of the governments chiefly concerned. Canada, therefore, was not represented in this phase of the Geneva Conference. However, as the result of a decision reached there, Canada, India and Poland were invited to form International Supervisory Commissions to supervise the carrying out of three cease-fire agreements for Cambodia, Laos and Vietnam, and also to provide members for the subordinate bodies of these Commissions. The Canadian Government accepted the invitation as a means of serving the cause of peace and, at year's end, there were some 120 Canadian officers and men and about 20 civilians serving on the Commissions in Indo-China.

Economic Affairs.—Again in 1954 as in previous years, Canada attended most of the major International Conferences concerned with economic affairs, including those of the Commonwealth, the Colombo Plan, the United Nations



Manager of the Reactor Division of the Atomic Energy Project at Chalk River, Ont., explains the NRX Reactor to Colombo Plan Conference delegates.

and its Specialized Agencies, the Organization for European Economic Co-operation, the General Agreement on Tariffs and Trade and, in observer status, the ministerial economic meeting of the Organization of American States. The balance-of-payments position of a number of Canada's important trading partners continued to improve throughout 1954 and increased attention was devoted to the special problems that might arise in moving toward a freer multilateral system of trade and payments.

During 1954, a trade agreement was concluded with Japan providing for an exchange of 'Most-Favoured-Nation' treatment. Similar agreements were concluded with Spain and with Portugal. In March 1954, the first meeting of the joint Canadian-United States Committee on Trade and Economic Affairs was convened in Washington at which Ministers of the two Governments examined trade and economic problems of common concern. The Ninth Session of the Contracting Parties to the General Agreement on Tariffs and Trade opened at Geneva in the autumn of 1954. At this session, the Contracting Parties were to review the operation of the General Agreement and formulate generally acceptable rules of trade. Mr. L. D. Wilgress of the Canadian Delegation was re-elected Chairman for 1955.

As in each of the three preceding years, Canada made available \$25,400,000 in 1954 to provide economic and technical assistance to the under-developed countries of south and southeast Asia under the Colombo Plan. The meeting of the Consultative Committee of the Colombo Plan was held at Ottawa in October 1954. The Hon. Walter E. Harris, Minister of Finance, was Chairman of these meetings.

Missions Abroad.—Canada's diplomatic representation abroad was extended in 1954 by the opening of diplomatic missions in the Dominican Republic, Egypt, Haiti, Israel and Lebanon. In addition, full diplomatic relations were resumed with the USSR for the first time since 1946 with the appointment of an Ambassador to the Soviet Union. At the end of 1954 Canada, was represented abroad by the following missions:—

Embassies (28)—

Argentina
 Belgium
 Brazil
 Chile
 Colombia
 Cuba
 Dominican Republic
 Egypt
 France
 Germany
 Greece
 Haiti
 Indonesia
 Israel
 Ireland
 Italy
 Japan
 Mexico
 Netherlands
 Peru
 Spain
 Switzerland
 Turkey
 USSR
 United States
 Uruguay
 Venezuela
 Yugoslavia

Legations (9)—

Austria
 Czechoslovakia
 Denmark
 Finland
 Lebanon
 Norway
 Poland
 Portugal
 Sweden

Offices of High Commissioners (7)—

Australia
 Ceylon
 India
 New Zealand
 Pakistan
 South Africa
 United Kingdom

Consulates General or Consulates (11)—

Brazil:
 São Paulo
 Philippines:
 Manila
 United States:
 Boston
 Chicago
 Detroit
 Los Angeles
 New Orleans
 New York
 Portland
 San Francisco
 Seattle

Permanent Delegations and Missions (4)—

Berlin (Military Mission)
 Geneva (United Nations)
 New York (United Nations)
 Paris (North Atlantic Council and Organization for European Economic Co-operation)

Canada does not maintain missions in Iceland and Luxembourg, but the Minister to Norway is accredited to Iceland and the Ambassador to Belgium is accredited to Luxembourg.

Trade Commissioners were also situated in the Belgian Congo, Guatemala, Hong Kong, Singapore and Trinidad.

His Excellency Hubert Guérin, representative of the Government of France in Canada, and Mme. Guérin, photographed in the French Embassy at Ottawa. Exchange of representatives between France and Canada has been continuous since 1928—the first Canadian Legation in Continental Europe was opened at Paris in that year.



SASKATCHEWAN—ALBERTA

GOLDEN JUBILEE, 1905-1955

Fifty years ago, parts of Canada's vast Northwest Territories were organized as the two Provinces of Saskatchewan and Alberta. A half century of growth and accomplishment is being commemorated in 1955 by the citizens of these Provinces but, even as they celebrate the past and view it with pride, their eyes are turned toward the promising future.

SASKATCHEWAN

Wheatfields



Regina



▲ *Uranium*

Oil Refining ▼



ALBERTA

le in the
foothills. ▶

eat and Oil
▲

Edmonton
▼



Coal ▼

Cement ▲





Photographic Survey Corporation

Ottawa—chosen in 1857 by Queen Victoria to be Canada's National Capital.

The Parliament Buildings, in their jewel-like setting, now crown the height that was bare "Barracks Hill" a hundred years ago. Since that time each successive generation has played its part in the building of a city of interest and beauty and in the development of its all-important function as the administrative centre of a great and growing nation.

THE PEOPLE, THEIR DEVELOPMENT AND WELFARE

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Canada is a mosaic of many peoples, whose native cultures add rich diversity and colour to the historic pattern formed by Canada's English-speaking and French-speaking races. In the last half-century, Canada has opened her gates from sea to sea to the tides of immigration. To-day, nearly one-fifth of the population—originating mainly in Continental Europe—is intermingling with the older-settled peoples to form a culture and allegiance distinctively Canadian.

The newest of the "new" Canadians have found a land whose people enjoy one of the world's highest living standards, where continued progress is aided by emphasis on popular education and on scientific research, where medical science, health and social security measures have helped achieve a low mortality rate, a high rate of natural increase and a high degree of life expectancy.

Enhanced personal and economic well-being is encouraging the development of the purely cultural aspects of Canadian life: painting, the theatre, ballet, folk music and literature are expressing the national consciousness and developing a community of spirit in a way which promises to transcend the limitations imposed by Canadian geography and to unite the varied racial backgrounds into a broad pattern of popular Canadian culture.

The People

• Population

CANADA has a population of 15,195,000 (June 1, 1954, estimate) so that for each square mile of its land area there are only about four persons (4.2 to be statistically correct). Even excluding the Yukon and Northwest Territories and Labrador, vast areas with little or no population, the average is still only between seven and eight per square mile.

The physiographic features, the climate and the distribution of natural resources have a definite effect on the pattern of settlement. The Island of Newfoundland, for instance, has an area of 40,559 sq. miles and an estimated population of 390,000, so that it has an average density of 9.6 per sq. mile. However, one-fifth of the people live in the metropolitan area of St. John's, the Island's one city, and the remainder are thinly spread along the coast. Fishing is the main occupation of the Island's people and at least 90 p.c. of them live beside the sea, mostly in small communities sheltered in the coves and bays. The resident population of Labrador is fewer than 8,000, also living mainly on the coast in small settlements. The largest single community is Goose Bay, about 100 miles inland at the south of Lake Melville.

The 105,000 people living in Prince Edward Island, on the other hand, are fairly evenly distributed over the Province and average 48 persons to the square mile. Almost half of them live on farms.

Nova Scotia has a fairly high average density of 32 persons to the square mile. More than one-third of the 673,000 people of the Province are concentrated in the metropolitan area of Halifax, the provincial capital and the largest Atlantic seaport, and in the metropolitan area of Sydney-Glace Bay, the main centre of the mining industry of Nova Scotia. Another 20 p.c. of the population reside in the counties bordering Northumberland Strait.

New Brunswick has an average of 20 persons for each square mile. The settlement of this Province has followed the coast-line and the river valleys and a large portion of the interior has very little population. For example, approximately 40 p.c. of the Province's 547,000 people are located in the St. John River Valley and one-third are located in the northeastern coastal counties of Restigouche, Gloucester, Northumberland and Kent. One-fifth of the total live in the metropolitan areas of Saint John and Moncton.

The Montreal area contains about one-third of the entire population of 4,388,000 in the Province of Quebec. Another million people live in the triangle to the south of the St. Lawrence River between Bellechasse County and the United States border. Most of the remainder are located within 35 miles of the Ottawa, St. Lawrence and Saguenay Rivers and Lake St. John. The vast area of Quebec north of the 49th parallel of latitude is very sparsely inhabited.

Almost 3,500,000 people, or about 68 p.c. of Ontario's population of 5,046,000, reside in the industrialized urban centres and rich farming areas south of a line running from about Oshawa just east of Toronto on Lake Ontario to Georgian Bay. Approximately one-third of these live in the metropolitan area of Toronto. Though this section has an area of about



The metropolitan area of Winnipeg, Man., has a population of over 350,000 and contains almost half the total population of the Province.

20,000 sq. miles, which is only about 5·7 p.c. of the Province's 348,141 sq. miles, it has a density of about 150 per sq. mile, or more than 35 times the national average. Another 20 p.c. of Ontario's population lives east of a line connecting Oshawa on the south and North Bay. The other 12 p.c. are located at the head of Lake Superior and in the northern mining districts.

The metropolitan area of Winnipeg contains almost half the population of Manitoba, and about 90 p.c. of the Province's people reside within 150 miles of the United States border. Agriculture occupies over half of the population of this portion of the Province, outside of the Winnipeg area, and the population density varies from 5 to 16 persons per sq. mile. Four-fifths of Manitoba's 219,723 sq. miles lies north of a line 150 miles from the International Boundary, but only 75,000 persons live in this vast area, some 12,000 of whom are in the mining areas of Flin Flon and The Pas.

Almost 50 p.c. of the 878,000 people in Saskatchewan live on farms and another 20 p.c. live in rural non-farm areas. This population is spread fairly evenly over an area stretching 300 miles from the United States boundary, while only 20,000 persons live in the northern half of the Province. The main aggregations of population are in the cities of Regina and Saskatoon. The average density for the whole province is about four persons per sq. mile.

Alberta's over-all population density is a little higher. The central section of the Province, a belt about 100 miles wide extending roughly 200 miles from Calgary to Edmonton, contains over half the population of 1,039,000. This is the great oil and grain producing area. To the south, the agricultural population is more scattered. The favourable climatic and soil conditions in the Peace River area have attracted considerable population farther north in this Province than in any other.

British Columbia's population is concentrated in the Vancouver-Howe Sound area where over 40 p.c. of the Province's 1,266,000 people live. About 180,000 persons live in the adjoining Lower Fraser Valley and another 200,000 in the southern part of Vancouver Island. In other words, about three-quarters of British Columbia's population lives in about 5 p.c. of the Province's area. Half of the remainder are in the southeastern corner, occupied in agricultural and mining pursuits.

Population of Canada, by Province, 1941, 1951 and 1954

NOTE.—Figures for 1941 and 1951 are Census figures and those for 1954 are estimated as at June 1, 1954.

Province or Territory	1941	1951	1954
	No.	No.	No.
Newfoundland.....	...	361,416	398,000
Prince Edward Island.....	95,047	98,429	105,000
Nova Scotia.....	577,962	642,584	673,000
New Brunswick.....	457,401	515,697	547,000
Quebec.....	3,331,882	4,055,681	4,388,000
Ontario.....	3,787,655	4,597,542	5,046,000
Manitoba.....	729,744	776,541	828,000
Saskatchewan.....	895,992	831,728	878,000
Alberta.....	796,169	939,501	1,039,000
British Columbia.....	817,861	1,165,210	1,266,000
Yukon Territory.....	4,914	9,096	10,000
Northwest Territories.....	12,028	16,004	17,000
Canada.....	11,506,655	14,009,429	15,195,000

Intercensal estimates cover only population by province, as shown above for 1954, and by sex and age groups. The high birth rates of recent years are reflected in the age and sex figures for 1954. In that year there were 231 persons under the age of ten years for every 1,000 of total population as compared with 223 in 1951, 182 in 1941 and 213 in 1931. The trend toward "aging" is indicated by the fact that 112 persons per 1,000 of population were 60 years or over compared with 114 in 1951, 102 in 1941 and 84 in 1931.

Census Information

The Census of Canada is the source of information on the detailed characteristics of Canada's population, and the latest census is that of 1951. It is possible to give here only very brief information on certain phases of the more important analyses.

Rural and Urban.—Census figures show that on June 1, 1951, 38 p.c. of Canada's population was established in rural localities and about 52 p.c. of those rural dwellers lived on farms. Thus the farm population constituted about 20 p.c. of the nation's total. In 1941 the proportion of the population

residing in urban areas was 57 p.c., and in rural areas 43 p.c. The recent trend towards urbanization in Canada is no exception to that noted in many other countries. In the 1941-51 decade, the urban population, exclusive of Newfoundland, increased 30 p.c. and the rural population 3 p.c.

The growth of the metropolitan areas and of the urban centres with more than 15,000 population in 1951 is shown in the following tables.

Population of Census Metropolitan Areas, 1941 and 1951

Area	1941	1951	Area	1941	1951
	No.	No.		No.	No.
Montreal, Que.....	1,145,282	1,395,400	Windsor, Ont.....	123,973	157,672
Toronto, Ont.....	909,928	1,117,470	Calgary, Alta.....	93,021	139,105
Vancouver, B.C.....	377,447	530,728	Halifax, N.S.....	98,636	133,931
Winnipeg, Man.....	299,937	354,069	London, Ont.....	91,024	121,516
Ottawa, Ont.....	226,290	281,908	Victoria, B.C.....	75,560	104,303
Quebec, Que.....	224,756	274,827	Saint John, N.B.....	70,927	78,337
Hamilton, Ont.....	197,732	259,685	St. John's, Nfld.....	59,474 ¹	67,749
Edmonton, Alta.....	97,842	173,075			

¹ Census of Newfoundland, 1945; figure for 1941 not available.

Populations of Incorporated Urban Centres with 15,000 or More Inhabitants, 1941 and 1951

Urban Centre	1941	1951	Urban Centre	1941	1951
	No.	No.		No.	No.
Belleville, Ont.....	15,710	19,519	Ottawa, Ont.....	154,951	202,045
Brandon, Man.....	17,383	20,598	Outremont, Que.....	30,751	30,057
Brantford, Ont.....	31,948	36,727	Owen Sound, Ont.....	14,002	16,423
Calgary, Alta.....	88,904	129,060	Peterborough, Ont.....	25,350	38,272
Cap de la Madeleine, Que	11,961	18,667	Port Arthur, Ont.....	24,426	31,161
Charlottetown, P.E.I.....	14,821	15,887	Prince Albert, Sask.....	12,508	17,149
Chatham, Ont.....	17,369	21,218	Quebec, Que.....	150,757	164,016
Chicoutimi, Que.....	16,040	23,216	Regina, Sask.....	58,245	71,319
Cornwall, Ont.....	14,117	16,899	St. Boniface, Man.....	18,157	26,342
Dartmouth, N.S.....	10,847	15,037	St. Catharines, Ont.....	30,275	37,984
Edmonton, Alta.....	93,817	159,631	St. Hyacinthe, Que.....	17,798	20,236
Forest Hill, Ont.....	11,757	15,305	St. Jérôme, Que.....	11,329	17,685
Fort William, Ont.....	30,585	34,947	St. Johns, Que.....	13,646	19,305
Fredericton, N.B.....	10,062	16,018	St. John's, Nfld.....		52,873
Galt, Ont.....	15,346	19,207	St. Laurent, Que.....	6,242	20,426
Glace Bay, N.S.....	25,147	25,586	St. Thomas, Ont.....	17,132	18,173
Granby, Que.....	14,197	21,989	Saint John, N.B.....	51,741	50,779
Guelph, Ont.....	23,273	27,386	Sarnia, Ont.....	18,734	34,697
Halifax, N.S.....	70,488	85,589	Saskatoon, Sask.....	43,027	53,268
Hamilton, Ont.....	166,337	208,321	Sault Ste. Marie, Ont.....	25,794	32,452
Hull, Que.....	32,947	43,483	Shawinigan Falls, Que.	20,325	26,903
Jacques Cartier, Que.....	¹	22,450	Sherbrooke, Que.....	35,965	50,543
Joliette, Que.....	12,749	16,064	Stratford, Ont.....	17,038	18,785
Jonquière, Que.....	13,769	21,618	Sudbury, Ont.....	32,203	42,410
Kingston, Ont.....	30,126	33,459	Sydney, N.S.....	28,305	31,317
Kitchener, Ont.....	35,657	44,867	Thetford Mines, Que..	12,716	15,095
Lachine, Que.....	20,051	27,773	Three Rivers, Que.....	42,007	46,074
Leaside, Ont.....	6,183	16,233	Timmins, Ont.....	28,790	27,743
Lethbridge, Alta.....	14,612	22,947	Toronto, Ont.....	667,457	675,754
London, Ont.....	78,134	95,343	Valleyfield (Salaberry		
Medicine Hat, Alta.....	10,571	16,364	de), Que.....	17,052	22,414
Moncton, N.B.....	22,763	27,334	Vancouver, B.C.....	275,353	344,833
Montreal, Que.....	903,007	1,021,520	Verdun, Que.....	67,349	77,391
Moose Jaw, Sask.....	20,753	24,355	Victoria, B.C.....	44,068	51,331
New Westminster, B.C.....	21,967	28,639	Welland, Ont.....	12,500	15,382
Niagara Falls, Ont.....	20,589	22,874	Westmount, Que.....	26,047	25,222
North Bay, Ont.....	15,599	17,944	Windsor, Ont.....	105,311	120,049
North Vancouver, B.C.....	8,914	15,687	Winnipeg, Man.....	221,960	235,710
Oshawa, Ont.....	26,813	41,545	Woodstock, Ont.....	12,461	15,544

¹ Not incorporated in 1941.

Birthplace.—Of the 14,009,429 people in Canada on June 1, 1951, 11,949,518 were born in Canada, 912,482 in the United Kingdom, 20,567 in other Commonwealth countries, 801,618 in Europe, 282,010 in the United States, 37,145 in Asia and 6,089 elsewhere.

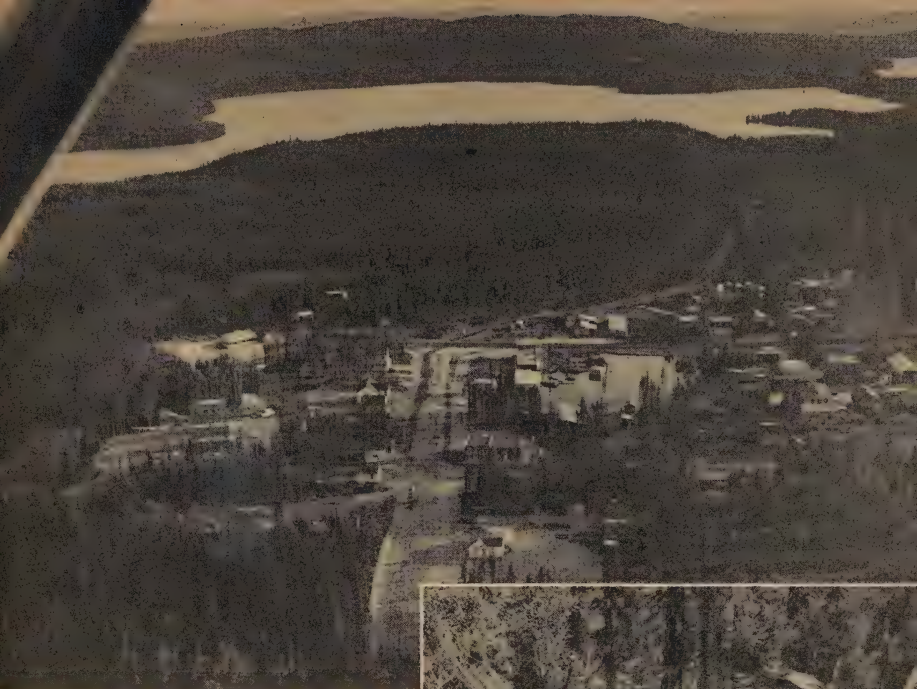
Origin.—In 1951, British Isles and French origins, traditionally the largest cultural groups in Canada, accounted for more than 78 p.c. of the nation's total population. Compared with 1901, the British Isles group dropped from 57.0 p.c. of the total to 47.9 p.c., while the percentage of persons of French origin was very slightly higher at 30.8 p.c. as against 30.7. In the same comparison, the percentage of those with ancestry in continental Europe (other than France) more than doubled from 8.5 to 18.2 and Asiatics showed a slight increase from 0.4 p.c. of the total to 0.5 p.c. Numerically, the seven leading origins were represented in Canada as follows:—

	No.		No.
British Isles (English, Irish, Scottish and Welsh).....	6,709,685	Scandinavian (Danish, Icelandic, Norwegian and Swedish).....	283,024
French.....	4,319,167	Netherlanders.....	264,267
German.....	619,995	Polish.....	219,845
Ukrainian.....	395,043	Other.....	1,198,403

Religious Denominations.—Religious denominations in Canada are many and diverse. However, in 1951 more than 92 p.c. of the population belonged

Torontonians following in the wake of the parade celebrating the re-opening of downtown Yonge Street on Oct. 29, 1954. On that day, the five years of excavations, detours, mud and barricades suffered during the building of Toronto's subway came to an end.





▲
 Uranium City in the northwest corner of Saskatchewan is the central settlement that serves the mines exploiting Canada's greatest known concentration of uranium. Every one of its 700 inhabitants is vitally interested in uranium and all the land within 30 miles of it is staked. Since the area opened up in 1950, about \$65,000,000 has been spent in developing claims.

►
 Setting up a diamond drill for the further testing of a pitchblende occurrence.



or adhered to one of the seven numerically largest religious denominations as follows:—

	No.		No.
Roman Catholic.....	6,069,496	Baptist.....	519,585
United Church of Canada....	2,867,271	Lutheran.....	444,923
Church of England in Canada	2,060,720	Jewish.....	204,836
Presbyterian.....	781,747	Other.....	1,060,851

Dwellings, Households and Families.—In 1951 there were approximately 3,400,000 occupied dwellings in Canada and 3,287,000 resident families compared with about 2,600,000 dwellings and 2,500,000 families in 1941. The increases were shared by all provinces. Because dwellings and family units increased at a faster rate than population generally, the average number of persons per household in 1951 was 4.0 compared with 4.3 in 1941 and the

average per family 3.7 compared with 3.9. The average size of rural farm families in 1951 was 4.4 persons, rural non-farm 3.9 persons, and urban 3.5 persons. In about 90 p.c. of all families, the family head was also head of the household. Some 320,645 families, or about 10 p.c., were living as relatives or lodgers in the households of other persons. At the Census date, 6.7 p.c. of the households in Canada contained two or more families; among the cities of 100,000 or more population, 10.5 p.c. were in this category.

Dwellings, Households and Families, and Persons per Household and Family, by Province, 1951

Province	Population	Dwellings		Families	Persons per Household ²	Persons per Family
		Total ¹	Occupied ²			
	No.	No.	No.	No.	No.	No.
Nfld.	361,416	78,024	70,980	74,858	5.0	4.4
P.E.I.	98,429	24,114	22,454	21,381	4.3	4.0
N.S.	642,584	159,795	149,555	145,127	4.2	3.9
N.B.	515,697	120,639	114,007	111,639	4.4	4.1
Que.	4,055,681	898,914	858,784	856,041	4.6	4.2
Ont.	4,597,542	1,232,081	1,181,126	1,162,772	3.8	3.4
Man.	776,541	210,565	202,398	191,268	3.7	3.6
Sask.	831,728	237,406	221,456	196,188	3.7	3.7
Alta.	939,501	266,939	250,747	223,326	3.6	3.7
B.C.	1,165,210	356,651	337,777	299,845	3.3	3.3
Canada	13,984,329³	3,585,128	3,409,284	3,282,445³	4.0	3.7

¹ Includes institutions, hotels and camps as well as vacant dwellings and dwellings under construction. ² Excludes institutions, hotels and camps. ³ Figures for Canada

are exclusive of 25,100 persons and 4,939 families located in the Yukon and Northwest Territories; comparable figures for dwellings are not available.

A rising standard of living during the 1941-51 decade is indicated by the housing statistics for that period. By 1951, more than nine homes in every ten had a radio and almost 75 p.c. had a powered washing machine. The greatest improvement was shown in refrigeration facilities. In 1941, one household in every five had a refrigerator; by 1951, every second household had one. Plumbing and heating facilities also showed improvement.

Facilities and Living Conveniences in Canadian Households, 1941 and 1951

NOTE.—Taken from 20 p.c. sample census. Exclusive of Newfoundland and the Territories.

Item	1941		1951	
	No.	p.c.	No.	p.c.
Households with—				
Electric lighting	1,780,667	69.1	2,929,450	87.8
Furnace heating	997,588	38.7	1,623,275	48.9
Running water	1,558,586	60.5	2,503,080	75.0
Flush toilet (exclusive use)	1,342,198	52.1	2,170,815	65.0
Bath or shower (exclusive use)	1,169,760	45.4	1,926,455	57.7
Electric or gas range	1,019,421	39.6	1,696,130	50.8
Electric or gas refrigerator	538,535	20.9	1,589,625	47.6
Powered washing machine			2,452,905	73.5
Electric vacuum cleaner	624,178	24.2	1,409,090	42.2
Telephone	1,037,298	40.3	2,013,640	60.3
Radio	2,002,889	77.8	3,086,695	92.5
Passenger automobile	944,591	36.7	1,435,925	43.0
Total Number of Households	2,575,744	100.0	3,338,315	100.0



Trois Pistoles is typical of the many small communities scattered along the south shore of the St. Lawrence River below the city of Quebec. The land is fertile and well cultivated, supporting an industrious farming population.

Aborigines

Indians.—There are in Canada, according to the Census of 1951, 155,874 persons of Indian origin, that is, persons with a paternal ancestor of Indian race. However, many of these have long been assimilated into the white population and have lost their identity as Indians. The number of persons considered as Indians under Indian legislation was placed at 136,407 in 1949. They are divided into about 600 bands and live on some 2,200 reserves set aside for their use and benefit. Their welfare is the responsibility of the Indian Affairs Branch of the Department of Citizenship and Immigration.

The Federal Government demonstrated its confidence in the abilities of Canadian Indians by passing, in 1951, a new Indian Act which gave them more responsibility in handling their own affairs. This Act was drawn up following lengthy discussions with Indian representatives from every part of Canada and in 1951 and again in 1953 Indians gathered in council at Ottawa to inform the Government on how the Act was operating.

This might not have happened if the Indian had not proved himself efficient and hard-working in promoting his own welfare. Indians to-day are building their own homes, repairing the roads on their reserves, or joining forces in some other worthwhile undertakings. The band councils, most of them chosen in democratic elections set up under the provisions of the new Act, pass bylaws for the good of their communities and operate as efficiently as do most town councils, using band funds wisely and well. In 1954, Indians built 972 houses and repaired 2,108 homes, the Indian Trust Fund was



A pure Chipewyan Indian working with his geiger counter in a blasted rock trench. Indians everywhere are moving out of their hereditary occupations of trapping and fishing and are proving their abilities in competition with others in modern industry.

increased by more than \$490,000, and in the Prairie Provinces the amount of land under cultivation was increased by 38,000 acres as compared with the previous year and more than 4,000,000 bu. of grain were harvested.

Indians everywhere are becoming more interested in good education and training as aids to better living. They are moving out of their hereditary occupations and proving their abilities in competition with others in modern agriculture, in industry, and in a variety of professions. Where Indians attend provincial schools, they have no trouble in keeping pace with the other students. In the 1953-54 academic year, 1,644 Indian students attended secondary schools, colleges and special courses; 38 of these pupils were taking trades courses, 37 commercial courses, 28 nurse-training courses and nine were studying at teacher-training schools.

Adults are learning, also. During 1954, the Welfare Division of the Indian Affairs Branch conducted its first series of study groups in which representatives of most Indian districts were able to study social welfare and community leadership. Study groups were held at Calgary for Alberta and British Columbia Indians, at Regina for Saskatchewan and Manitoba Indians, at North Bay for Ontario, Eel Ground Reserve, N.B., for the Maritimes, and Quebec City for Quebec. The conferences were very successful and the participants returned to their communities full of ideas and enthusiasm.

The success of community organizations such as the Homemakers' Clubs on the reserves indicates that they will have no lack of support in their efforts to improve community welfare. The 169 active Homemakers' Clubs were responsible for many home improvements on the reserves, and took leadership in sewing, welfare, and social activities on all reserves. Two new clubs were formed in 1954 and others were being organized.

In 1954, 789 Indians were enfranchised, that is, they elected to be considered on a full citizenship basis as are other Canadian citizens and gave up their special rights under the Indian Act.

Eskimos.—The Canadian Eskimos numbered about 9,600 in 1951 and all evidence indicates that their numbers are increasing. In the main they inhabit that part of the country lying north of the treeline. When first discovered, the Eskimos were a hunting and fishing people who had developed a specialized culture that enabled them to live farther north than any other people. They were nomadic, following the animals on which they depended for food and clothing. Their first contact with European civilization was in the nineteenth century through visits of explorers and whalers, followed by the advent of fur traders and missionaries into the northern regions. The Canadian Eskimos quickly became accustomed to the use of firearms and other equipment they obtained in exchange for white fox fur, and trapping accordingly assumed a growing importance in their economy.

Since the end of World War II, however, the rising prices of the goods they now buy and the marked decline in their income from fur trading has resulted in a difficult economic situation which the institution of Family Allowances and Old Age Assistance has helped to alleviate. The Department of Northern Affairs and National Resources, which is charged with the general administration of the Arctic and of Eskimo affairs, makes continuing studies of the situation and endeavours to meet the problems created by changing conditions. In this it has the co-operation of other government departments and outside organizations directly concerned with Arctic affairs. Developments of this nature must necessarily be long-term, following the policy that the Eskimos should enjoy the same advantages as other Canadians.

The most immediate problems are to protect the health of the Eskimos, who have built up no immunity against many of the diseases to which they are now for the first time exposed; to diversify and improve their economy; and to educate and train them so that they may play a full part in the development of northern Canada. Hospitals, nursing stations and schools

Eskimos at Pangnirtung are shown objets d'art produced by other Eskimos at Cape Dorset.



have been established at a number of strategic points and, wherever practical, steps are being taken to introduce handicrafts and other local industries to increase their income. Groups are also assisted in moving to areas where they may either make a better living in the traditional ways or obtain suitable employment and at the same time receive further education and technical training.

Immigration

The present policy of the Federal Government is to foster the growth of the population of Canada by the encouragement of immigration in a manner that, by necessary legislation and vigorous administration, will ensure the careful selection and permanent settlement of such numbers of immigrants as can be absorbed advantageously in the national economy.

The number of immigrants entering Canada in the post-war period, Jan. 1, 1946 to Sept. 30, 1954, totalled 1,084,999. British immigrants from overseas countries led in this influx, with a total of 329,073. Immigrants of North European origin numbered 316,084, the leading individual cultural groups being German and Austrian 142,674, Netherlander 106,826, and French 21,490, while those from the United States numbered 77,809.

In the nine months ended Sept. 30, 1954, Canada received 126,853 immigrants, 1,755 more than in the corresponding period of 1953. In the 1954 period, British immigrants from overseas numbered 36,111, a 2-p.c. increase over the same months of 1953. Immigrants from the United States increased by 11 p.c., the comparative totals being 7,559 in 1954 and 6,788 in 1953. Entries of North European races declined from 53,867 to 50,564 in the same comparison. Immigrants of all other races numbered 32,619 in 1954, as against 28,870 in the first nine months of 1953.

The responsibility of all immigration matters under the provisions of the Immigration Act (R.S.C. 1952, c. 42) rests with the Minister of Citizenship and Immigration. A primary objective of the administration is to assist immigrants to become quickly and satisfactorily settled in the Canadian community and the Federal Government continues its interest in them through the work of several agencies.

Citizenship

All persons born in Canada are Canadian citizens and cannot be deprived of their citizenship unless they themselves take definite steps to acquire another nationality. Immigrants who are naturalized in Canada become citizens and retain their citizenship so long as they remain domiciled in Canada or have authority for absence from Canada and do not commit acts that result in revocation. A Canadian citizen holds also the status of a British subject.

Results of the 1951 Census show that 96.8 p.c. of all the people of Canada at that time were Canadian citizens, 0.7 p.c. were citizens of other Commonwealth countries, 1.7 p.c. of European countries, 0.1 p.c. of Asiatic countries and 0.6 p.c. of other countries. In 1951, 98.0 p.c. of the persons of British Isles origin and 99.7 p.c. of those of French origin owed allegiance to Canada. Corresponding percentages for other European and Asiatic countries were 89.3 p.c. and 78.7 p.c., respectively.



Canada's past becomes alive and her future exciting to young folk viewing historic relics and plans for development. Old No. 40, a woodburner built in 1872, is now a museum train carrying exhibits dating back to the early days of railroading Students look over a model of their National Capital of the future. Bringing young people to Ottawa from all across Canada is part of a service-club-sponsored good-citizenship program.



An applicant for citizenship is required to have resided in Canada for five years. Besides showing those qualities of character that would lead him to be a hard-working law-abiding citizen, he must have an adequate knowledge of the English or French languages and also a knowledge of Canadian history, geography, form of government, and of the responsibilities of a good citizen.

The Department of Citizenship and Immigration administers the Canadian Citizenship Act, 1947, and provides leadership in the building of true citizenship among all Canadians. The Department co-operates with provincial departments of education and national, provincial and voluntary organizations in the development of citizenship programs designed to assist in the adjustment of newcomers to the Canadian way of life and to develop among established citizens an appreciation of the customs, culture and contributions of the new residents. During the year ended Mar. 31, 1954, certificates of Canadian citizenship were issued to 23,061 persons.

• *Vital Statistics*

Registration with the civil authorities in each province of every birth, death and marriage occurring in Canada is compulsory. Every registration is filed permanently in the office of the Provincial Registrar. Certificates issued to individuals from these records are almost essential for modern social and legal purposes. Birth certificates are generally required and accepted to establish birthplace, birth date, citizenship, parentage and relationship to other members of the family, and are used for such purposes as the settlement of estates, identification, establishing legal dependency, eligibility for employment and pension and social welfare benefits. Similarly, death certificates are required for settling insurance claims, establishing right to remarry, tracing ancestry and so on.

National statistics have been compiled since 1921 through a co-operative arrangement with the provincial vital statistics authorities, under whose jurisdiction the registration of vital events has always remained. There is hardly a facet of the country's economy, whether at the national, provincial, municipal or small-community level, that does not depend on accurate vital statistics. The Canadian registration system is regarded as one of the most complete and accurate in the world.

Births.—One of the characteristic phenomena of births in Canada is that there is constant excess of male over female births—about 1,060 males are born each year for every 1,000 females. From 1921 to about 1940 the number of births recorded fluctuated around a quarter of a million a year, with a birth rate varying from 20 to 29 for each 1,000 population. A rate of 20 is considered relatively high for most major countries of the world. The influence of World War II was reflected in a sharp increase in births, both in new and established families, up to a record of 416,825 in 1953 and a rate of 28.2. The birth rate has remained remarkably steady at 27 to 28 since the War.

Deaths.—Canada has one of the lowest death rates in the world. A record low of 8.6 was set in 1953, a marked reduction from the crude rate of 11.5 in 1921, despite an increase in the proportion of aged persons in the population, which naturally tends to increase the death rate.

In 1953, 416,825 new Canadians arrived by birth—one every 53 seconds. The annual birth rate in Canada, at about 28 per 1,000 population, is relatively high compared with other countries.



If deaths under one year of age are excluded, the average age at death is now about 64 for males and 67 for females. Life expectancy at birth has risen during the past decade from 63 for males and 66 for females to 66½ years for males and almost 71 years for females.

Of about 127,000 deaths in 1953, arteriosclerotic and degenerative heart disease, which is associated with aging, caused 33,274 deaths. Other forms of heart disease accounted for an additional 8,031 deaths; cancer 19,120; cerebral hæmorrhages and other circulatory disturbances 14,107; 6,838 died from pneumonia, influenza and bronchitis and 9,600 died from conditions associated with birth or early infancy. Over 3,100 persons died as a result of motor-vehicle accidents and 5,521 from other accidents, while 1,052 committed suicide.

Mortality from most of these conditions has increased in recent years but there have been notable reductions in mortality from other diseases. In 1953, for example, only 1,810 persons died from tuberculosis as compared with about 7,800 annually 25 years previously; mothers now rarely die as a result of childbirth—in 1953 only 324 mothers died as a result of conditions associated with delivering some 417,000 children; infant mortality has fallen from a rate of 102 per 1,000 live births in 1926 to 35 in 1953, the lowest in Canadian history. However, the reduction in mortality among children who

failed to reach four weeks of age has not kept pace with that for all infants up to one year of age. Of the 14,764 infants who died in 1953 before reaching their first birthday, three-fifths or almost 8,900 died within the first four weeks of life.

Natural Increase.—At almost 20 per 1,000 population, Canada has one of the highest natural increase rates in the world. Natural increase—the net gain when deaths are subtracted from births—was constant at an annual 100,000 to 150,000 from 1921 (the first year of record) to 1940. Since that time, increases in births and declines in deaths have raised the natural increase quite considerably, the number added in 1953 being almost 290,000.

Marriages.—The depression of the early 1930's exercised a marked influence on marriages, causing a steep downward movement, but from 1933 to 1942 a fairly steady increase took place and the rate rose from 6 to almost 11 per 1,000 population. The peak was reached in 1946 with 134,088 marriages and another high point was reached in 1953 with 130,837.

Births, Marriages and Deaths, 1926-53

(Exclusive of the Yukon and Northwest Territories; Newfoundland included from 1949)

Year	Births		Marriages		Deaths		Maternal Deaths	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ²
Av. 1926-30...	236,521	24.1	71,886	7.3	108,925	11.1	1,339	5.7
Av. 1931-35...	228,352	21.5	68,594	6.5	103,602	9.8	1,153	5.0
Av. 1936-40...	228,767	20.5	96,824	8.7	109,514	9.8	1,043	4.6
Av. 1941-45...	276,832	23.5	113,936	9.7	115,144	9.8	791	2.9
Av. 1946-50...	354,869	27.4	126,687	9.8	119,975	9.3	523	1.5
1951.....	380,101	27.2	128,230	9.2	125,454	9.0	405	1.1
1952.....	402,527	27.9	128,301	8.9	125,950	8.7	374	0.9
1953.....	416,825	28.2	130,837	8.9	127,381	8.6	324	0.8

¹ Per 1,000 population.

² Per 1,000 live births.

Births, Marriages and Deaths, by Province, 1953

(Exclusive of the Yukon and Northwest Territories)

Province	Births		Marriages		Deaths		Maternal Deaths	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ²
Nfld.....	12,797	33.4	2,771	7.2	2,733	7.1	19	1.5
P.E.I.....	2,737	25.8	647	6.1	926	8.7	2	0.7
N.S.....	18,276	27.6	5,378	8.1	5,808	8.8	14	0.8
N.B.....	16,458	30.7	4,232	7.9	4,637	8.7	16	1.0
Que.....	128,719	30.2	35,968	8.4	34,469	8.1	136	1.1
Ont.....	129,771	26.5	45,954	9.4	45,242	9.2	69	0.5
Man.....	21,242	26.3	7,277	9.0	7,015	8.7	16	0.8
Sask.....	23,703	27.5	7,186	8.3	6,687	7.8	13	0.5
Alta.....	31,376	31.3	10,126	10.1	7,646	7.6	21	0.7
B.C.....	31,746	25.8	11,298	9.2	12,218	9.9	18	0.6
Canada...	416,825	28.2	130,837	8.9	127,381	8.6	324	0.8

¹ Per 1,000 population.

² Per 1,000 live births.



Education



Canada's Schools

Canada is served to-day by more than 114,000 teachers in over 32,000 schools, colleges and universities. Of these 32,000, all but 2,000 are public primary or secondary schools; the remainder include some 800 private schools, 225 business colleges, five schools for the blind and eight for the deaf, and 262 institutions of higher learning, 29 of which grant degrees. In addition to 18 faculties of education in universities, there are 112 teacher-training schools.

Many of Canada's nearly 3,000,000 school children attend up-to-date, functionally-designed and well equipped schools. Because of this country's vast size and scattered population, one- and two- room rural schools are still quite common. Even the "log schoolhouse", a feature of an





earlier pioneer time, has not entirely vanished from the Canadian scene.

These pages show representative schools to-day: rural, urban (and suburban); the private college; the "railway car", which through short stays at rail sidings in the northern Ontario bush serves a wide constituency, and one of several schools providing a Canadian education for children of Canadian servicemen overseas.



Education is Free

With few exceptions, education in Canada's public primary and secondary schools is free. Money for the support of public education is derived mainly from local taxation in the municipality and from provincial grants and assistance. Of the \$516,000,000 spent on all forms of education, public and private, in Canada in 1951—the latest year for which total figures are available—some four-fifths or nearly \$400,000,000 was spent on public primary and secondary education, and of this amount \$244,000,000 came from local taxation and \$146,000,000 from provincial grants.

Provincial Control

The Province in Canada has authority over education. Except for federal control over the education of Indians and Eskimos in the provinces, and of all children in the Yukon and Northwest Territories and in military establishments, nine provincial Departments of Education, each under a provincial Minister of the Crown, administer the educational programs; the exception is Quebec, where education comes under the Provincial Secretary's Department. In Quebec, two systems are in operation: the Roman Catholic, predominantly French, and the Protestant, predominantly English. Alberta, Saskatchewan and Ontario make provision for separate schools, mainly



Roman Catholic, and in Newfoundland, most schools are denominational. In accordance with provincial legislation, local school boards, mainly elected, though some are appointed, build and operate the schools and hire the teachers.

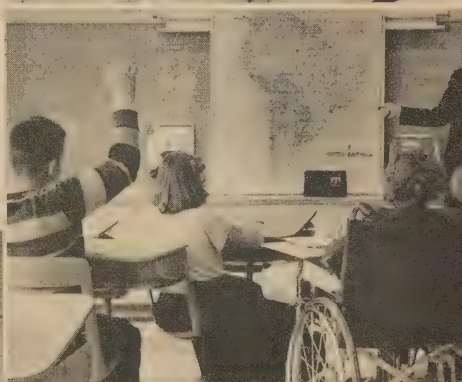
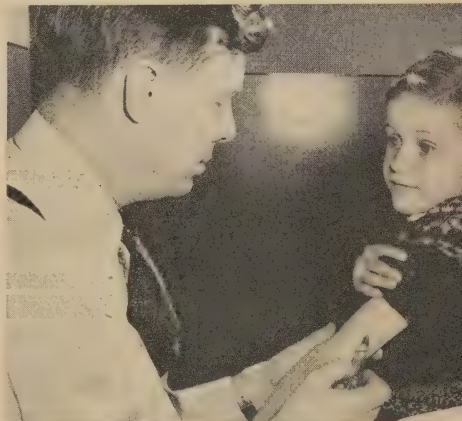
The Pattern is Set

The Canadian child may complete 11 to 13 years of schooling from the time he or she begins primary school to the time secondary school is completed. In most provinces, the curriculum is divided into elementary, intermediate and secondary stages; in the others, elementary and secondary only.

Where kindergarten classes are provided, children learn to take part in organized play, receive training in simple art and craft work, and in music, and are given some basic preparation for the learning of reading and arithmetic. In the elementary grades, the three R's—reading, writing and arithmetic—are basic; but social studies, general science, health, arts and crafts, music, home economics and industrial arts are included. Curricula are broadened to include a variety of subjects in the intermediate years—often classed as junior high school—and then become specialized in the final secondary school years.

Correspondence lessons are available for those who cannot attend school; special classes and institutions are provided for the handicapped, and a variety of privately controlled schools offer nursery and kindergarten facilities and primary education.

The pictures on these pages show something of the characteristics of primary education in Canada: how nature study, health and athletic activity, visual aids, manual skills and group enterprise are brought into the classroom and help prepare the pupil to meet the responsibilities of everyday life.



The Career is Chosen

Secondary education in Canada may lead to further education and professional training at the university or elsewhere, or to direct entry into employment. A wide choice of courses is given the student, as a rule, by a system of required and elective subjects. English, French and other languages, sciences, mathematics, social studies or history, as well as household science, commercial and trades training are available in many schools. The formation of larger school districts and the provision of bus transportation have made it possible to provide a wide variety of courses and better classroom facilities in many areas.

At university, the most popular types of training are in arts and science, engineering, medicine, commerce, education, law, pharmacy, agriculture and home economics, in that order. Post-graduate studies have also been more fully developed in recent years.

Unique among the private schools is the system of "collèges classiques", most of them in the Province of Quebec. Operated by Roman Catholic religious orders and affiliated with the French-language universities, these "secondary" schools provide eight years of secondary and college training. Admission is based on six or seven years of primary education. Graduation is marked by award of the bachelor's degree—required for admission to most of the professional faculties of the French-language universities.



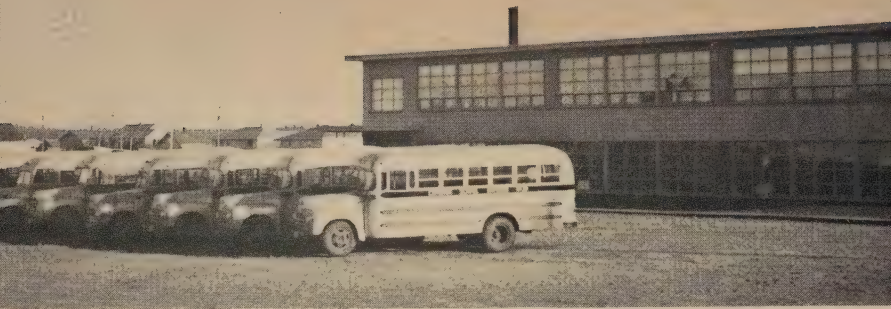


Education is Life-long

But education in Canada is not confined to the schools. It spreads into the home, the community, the trade union, and the larger business concern. Adult education, actively fostered by education authorities, helps enrich the intellectual life of the individual, promotes community development and leadership qualities. Through it, also, the "new Canadian" finds a guide to a new life in a new country.

The pictures on these pages and the one following show some of the aspects of secondary and higher education, and of adult education activities in Canada. They include the learning of commercial, manual and domestic skills, a secondary school science class, a student cafeteria, a university campus, business executives arriving for a summer course in labour relations, an adult craft group in action, and a class of "new" Canadians learning "basic" English. Bus transportation has made feasible the larger school district—and in the final picture, students are seen leaving one of the many beautiful and modern secondary schools in Quebec Province. The Canadian educational system has brought about, in Canada, one of the highest literacy rates in the world. It is a system designed to fit the student—young or old—to make a livelihood and to play the part of a good citizen in the community.





Brief Facts of Canadian Education—in Figures Academic Year 1951-1952

Type of Training	Schools	Teachers	Pupils
	No.	No.	No.
Elementary and secondary schools.....	31,946	101,556	2,676,833
Regular public.....	30,753	93,778	2,529,382
Regular private.....	1,180	7,467	145,425
Schools for the blind and deaf.....	13	311	2,026
Teacher training.....	130	1,389	15,203
Normal schools.....	112	1,205	11,463
University faculties.....	18	184	3,740
Evening classes.....			230,629
Adult schools.....	446	916	25,590
Universities and colleges (not specified elsewhere).....	262	{ 10,779	122,856
Full-time university grade.....		{ 6,098	59,759
Other.....		{ 4,681	63,097



Scientific Research

BEHIND the dramatic story of Canada's tremendous industrial expansion are the pioneers of the laboratory—the men and women who day by day extend the nation's frontiers of scientific knowledge. Long recognized as basic to progress, scientific research is no newcomer to the Canadian scene. In the years when raw materials formed the bulk of Canada's exports the research accent was on natural resources; in recent years, the emphasis has shifted to applied industrial research.

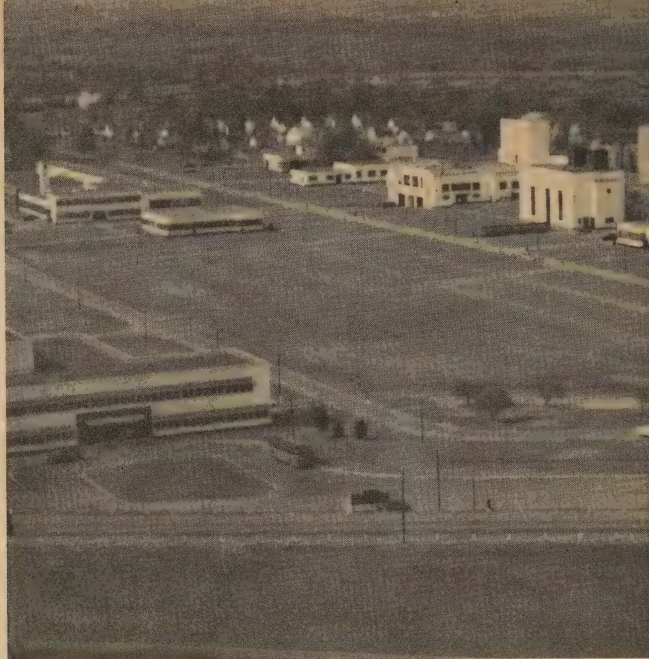
Although the changeover has been characterized by a growing awareness by Canadian industry of the value of scientific research and although each year more and more companies are investing heavily in research facilities, most of the industrial research has been done by government. On the national level, the central organization is the National Research Council, which investigates problems in practically every field. There are also several provincial research councils that stimulate and support research on problems of special provincial significance. A number of federal departments—notably Agriculture, Fisheries, Northern Affairs and National Resources, Mines and Technical Surveys, National Defence, and National Health and Welfare—have permanent staffs that do research in such fields as soil problems, crops, breeding and testing animals, ocean and mollusk fisheries, processing and marketing, silviculture and forest products, hydrography, extractive and physical metallurgy, military weapons, food and nutrition, medical care, and cosmetics, drugs and pharmaceuticals. The Board of Grain Commissioners maintains laboratories for research in milling, baking and malting, and the Dominion Observatories carry out research in such fields as solar physics, astrophysics, seismology, terrestrial magnetism and gravity.

Canada's universities also form an important part of the Canadian pattern of research, mostly along fundamental lines. Assistance in certain fields is given by a number of research foundations, including the Ontario Research Foundation (technological problems), the Banting Research Foundation (medicine) and the Rockefeller Foundation (the medical, natural and social sciences and public health).

The efforts of the scientists of government, university and industry on major problems of national scope are co-ordinated by the National Research Council through a system of associate committees. Their members, who serve without salary, are drawn from the ranks of federal, provincial, university and industrial organizations. At present there are 22 of these associate committees working in such diverse fields as aquatic biology, dental research, food preservation, grain research, oceanography, parasitology, soil and snow mechanics, synthetic rubber and wildlife.

National Research Council.—Since its inception in 1917, NRC has had a profound effect upon Canadian research. Its first act was to establish a system of grants and scholarships to stimulate research in universities and to assist students in financing post-graduate training—still an important part of the Council's activities. (More than 3,000 scholarships have been granted to date.) The next step was to set up the associate committee mechanism to co-ordinate research of a national character.

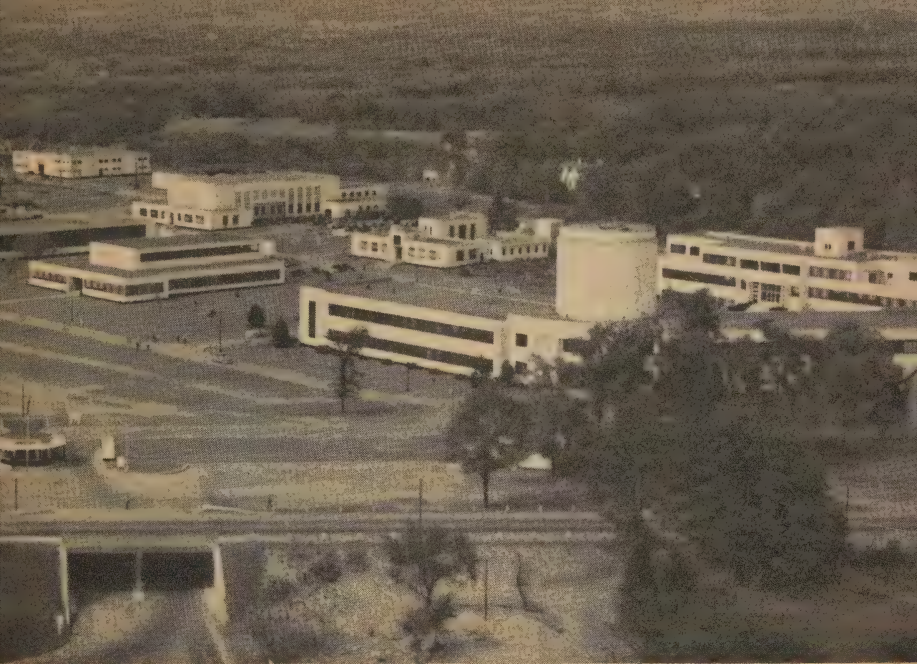
Engineering Research Laboratories of the National Research Council located on a 400-acre site just east of Ottawa.



It was not until 1925 that NRC began laboratory work on its own. This at first was on a small scale, but in 1932 a central laboratory housing four divisions (Physics and Engineering, Biology and Agriculture, Chemistry, and Research Information) was opened on Sussex Street in Ottawa. The Mechanical Engineering Division was established in 1936, and in 1939 a 130-acre building site was acquired on the Montreal Road near Ottawa, a site that has now been extended to 400 acres.

World War II brought a ten-fold expansion to NRC—in 1945 it had more buildings than it had scientists in 1939. In all, 21 laboratories were opened from coast to coast during the War. Their interests ranged from cold weather research to aeronautical engineering and atomic energy. NRC was engaged in almost every field of war research and contributed much to the war effort. For example, more than 30 types of radar equipment were designed and wartime production of these was worth over \$300 million. Canadian radar gear protected not only the cities and coasts of Canada but also the Panama Canal Zone and the cities of the United Kingdom. Canada also provided the Commonwealth's navies with two of the most important types of radar gear used in the later years of the War.

NRC's growth was continued in the post-war era—1946 saw the establishment of the Medical Research Division and the transfer of the atomic energy project from the University of Montreal to Chalk River in Ontario; 1947, the formation of the Building Research Division and the Radio and Electrical Engineering Division; 1948, the beginning of the Prairie Regional Laboratory at the University of Saskatchewan in Saskatoon; 1952, the opening of the Maritime Regional Laboratory at Dalhousie University in Halifax.



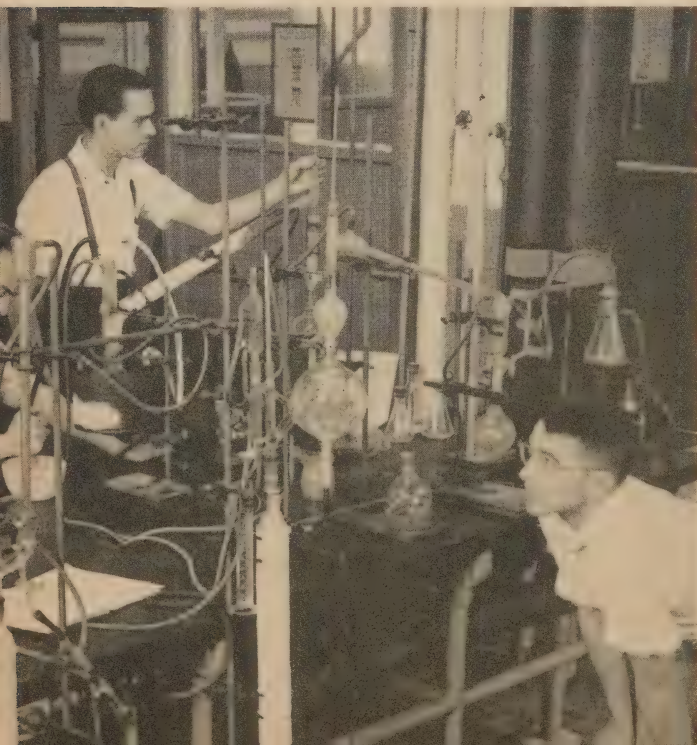
To-day, the staff of NRC numbers 2,000, of whom about 500 are scientists (average age is 34). About half of NRC's scientists hold degrees at the doctorate level and the remainder hold degrees at the master's or bachelor's level; about 150 of these scientists are also engineers. The Council operates on an annual budget of about \$15 million, of which \$14 million comes from the Federal Government and \$1 million from royalties and fees (NRC also does special research for industry on a fee basis). Foundation work (scholarships, assisted research grants, associate committees) takes about \$2 million and the laboratories the remainder of the Council's funds. An Advisory Council, responsible to a committee of seven Cabinet Ministers, has direct and final authority on grants and scholarships, and formulates the broad policy that governs the operation of the laboratories. Most of the Council's 21 members are drawn from the senior scientific staffs of universities; others represent labour and industry.

At present, NRC's laboratories are organized in eight divisions. The *Applied Biology Division* is chiefly concerned with food investigations in their biological, biochemical and engineering aspects. For example, improved designs and operating procedures are being worked out for railway refrigerator cars. Other projects concern the utilization of agricultural or forest by-products, such as the production of butylene glycol from beet molasses or sulphite liquor, and the production of citric acid by deep fermentation; the acclimation of animals to various temperatures as a source of information on the probable effect of cold on human beings subjected to Arctic conditions; studies of photosynthesis, which are yielding useful data on the way plants convert their food materials into plant tissue; and the constitution of plant gums from wheat flour and wheat straw.

The work of the *Pure Chemistry Division* bears close resemblance to university research studies in chemistry and is directed towards a similar objective—adding to the sum of human knowledge of chemical science. Calorimetric investigations are being made of the thermo-dynamic properties of simple gases; the chemistry of liquid ammonia solutions is being elucidated. New data have been obtained on rotational isomers; studies of critical temperature phenomena have led to a better understanding of the liquid-vapour transition; mercury-photosensitized reactions of ethane and amines, and related problems in photochemistry have been studied.

The major function of the *Applied Chemistry Division* is long-term research on the development of Canadian resources. Pilot-plant operations are under way on projects of industrial importance, such as the recovery of oils from the tar sands at McMurray, Alta., and the oxidation of ethylene to ethylene oxide, from which a long line of industrial organic chemicals may be produced. Of immediate practical interest are investigations on corrosion, textiles and rubber. Interesting studies in metallurgical chemistry are concerned with methods of preparing synthetic gems such as sapphires and rubies.

The *Physics Division* covers a wide range of work from cosmic rays and spectroscopy to temperature and radiation, colorimetry, and standards of weights and measures. In the pure physics branch, a study is being made of the very penetrating cosmic ray particles arriving at the earth in a horizontal direction. In spectroscopy, discoveries of international interest have been made in regard to the atmospheres of Neptune and Uranus, and in the structure of certain molecules, to mention only two of many research projects. X-ray diffraction powder patterns of more than eighty pure narcotics have



Research workers in one of the laboratories of Shawinigan Chemicals Limited, Shawinigan Falls, Quebec. This firm has the largest industrial chemical research organization in Canada.



The Canadian Joint Commission on Oceanography, which pools the efforts of government departments having an interest in the sea, carries on exploration of the waters adjacent to the Canadian coast.

been obtained as part of a survey of physical methods for identification of these substances. On the applied side, work is proceeding on problems in acoustics, electricity, metrology, optics, photogrammetry, colorimetry and radiology, as well as on temperature and radiation. A new type of fog horn has been designed and put into use. Equipment has been built and is in use to measure brightness and contrasts which occur in typical outdoor photographic scenes on the ground. Film-resolving power of photographic film is being studied. Optical relay systems have been designed for use with the gunsight in fighter aircraft. Colour codes for steel bars and colour selections for aeronautical maps used in aircraft have been worked out.

The *Building Research Division*, in close co-operation with the construction industry and Central Mortgage and Housing Corporation, is conducting an extensive program of research in building materials, house heating, insulation, fire research, building physics, design characteristics and soil mechanics. Investigations extend to all parts of the country: a station at Norman Wells, N.W.T., operated in conjunction with Imperial Oil Limited, is providing useful information on Arctic problems; seven test huts are being operated in different locations to determine the insulating value of various building materials under differing climatic conditions. The National Building Code has been revised and brought up to date.

The *Mechanical Engineering Division* embraces many branches of aeronautical research, together with certain phases of hydraulic and mechanical engineering and naval architecture. The division includes units for work on aerodynamics, engines, fuels, lubricants, structures, and instruments; operates



The Professional Institute of the Public Service of Canada recognizes the outstanding contribution of Dr. Karl A. Clark of the Alberta Research Council to the development of a commercially feasible extractor plant for the recovery of oil from the fabulously rich Athabasca tar sands. Dr. Clark (left) receives the 1955 gold medal from the Institute's past president, Mr. J. H. Lowther.

a flight research station where equipment produced in the laboratories can be tested in actual flight; functions as a research organization for the Armed Services; and provides Canada's aviation industry with research, development and testing facilities. For example, the Division's wind tunnels were used to provide the de Havilland engineers with information required in designing the *Otter*, which is now flying and is one of the most successful aircraft of its type characterized by short take-off run, manoeuvrability with heavy loads and sturdy construction. High-speed wind tunnels are used to study aircraft characteristics at supersonic speeds. A thermodynamics laboratory has begun work on combustion, compressors and turbines. The work of the low temperature laboratory includes a continuing study on aircraft icing.

The *Radio and Electrical Engineering Division* is currently working on several military projects in co-operation with the Defence Research Board. Considerable basic research is also being carried on in radio-physics and in radio and electrical engineering. Four sections are concerned with subjects of civil rather than military interest, including testing and development work for electrical manufacturers; electronic work associated with a program of electromedical research in progress at the University of Toronto; civil radar techniques, especially in their application to air and sea navigation and aerial survey problems; and solar noise observations, radio-frequency mass spectrometers, and antenna design.

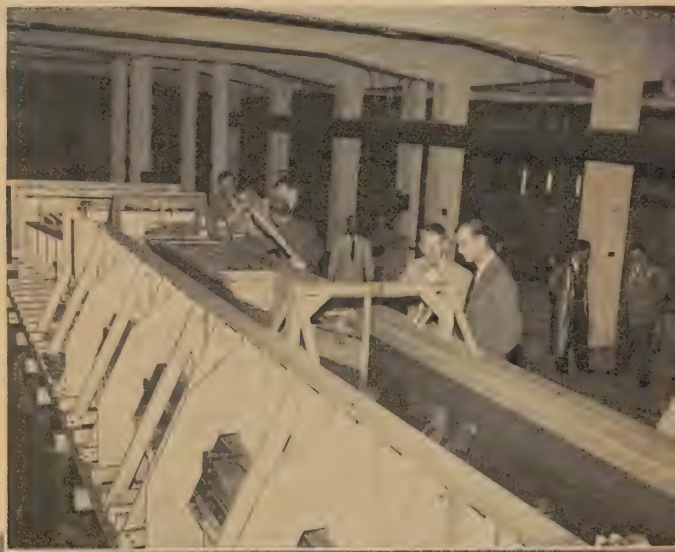
The *Medical Research Division* promotes medical research through scholarships and grants-in-aid to workers in Canadian medical schools. Many different fields of medical research are being supported, including studies relating to the central nervous system, endocrinology, properties of the blood, metabolism, and shock.

Atomic Energy Research.—All matters concerning atomic energy in Canada are controlled by the Federal Government through the Atomic Energy Control Board, and the operation of atomic reactors, atomic research and the processing and marketing of reactor by-products is carried out by a Crown corporation, Atomic Energy of Canada Limited. Two heavy-water reactors are in operation at Chalk River, Ont. A low-energy reactor known

as ZEEP was built in 1944-45 and has proved to be an invaluable research tool. In 1947 a second reactor NRX was completed, having the highest neutron flux of any known reactor and, like ZEEP, using natural uranium as a fuel and heavy water as a moderator. This reactor produces radioactive isotopes with a high specific activity now in use in many Canadian industries, hospitals and universities and which have also been shipped to the United States, the United Kingdom and various European and South American countries. Construction is progressing on NRU, a new more powerful reactor which will provide facilities for research related to the production of electric power from atomic energy.

By 1954, the work at Chalk River had reached the point where it was believed possible to produce electricity within an economical cost range, and it was felt necessary to join, through the incorporation of a holding company,

H.R.H. The Duke of Edinburgh inspecting a model of a St. Lawrence seaway lock, built in the Hydraulics Section of NRC's Radio and Electrical Engineering Division.



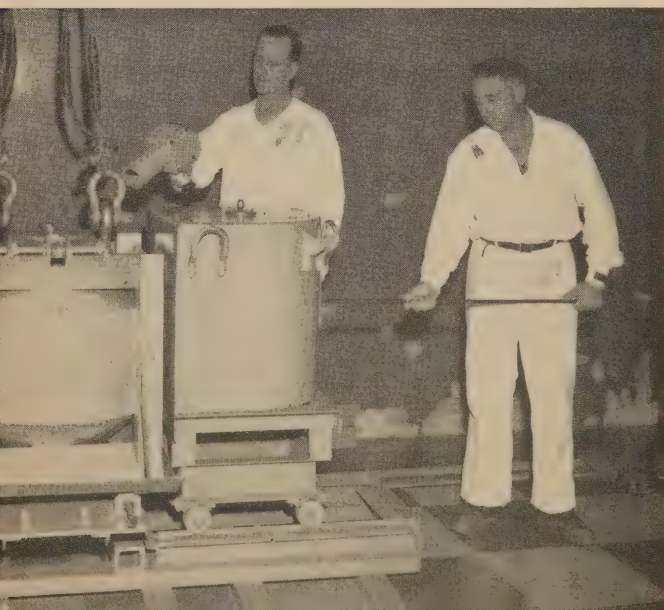
The soil mechanics laboratory of the Building Research Centre.



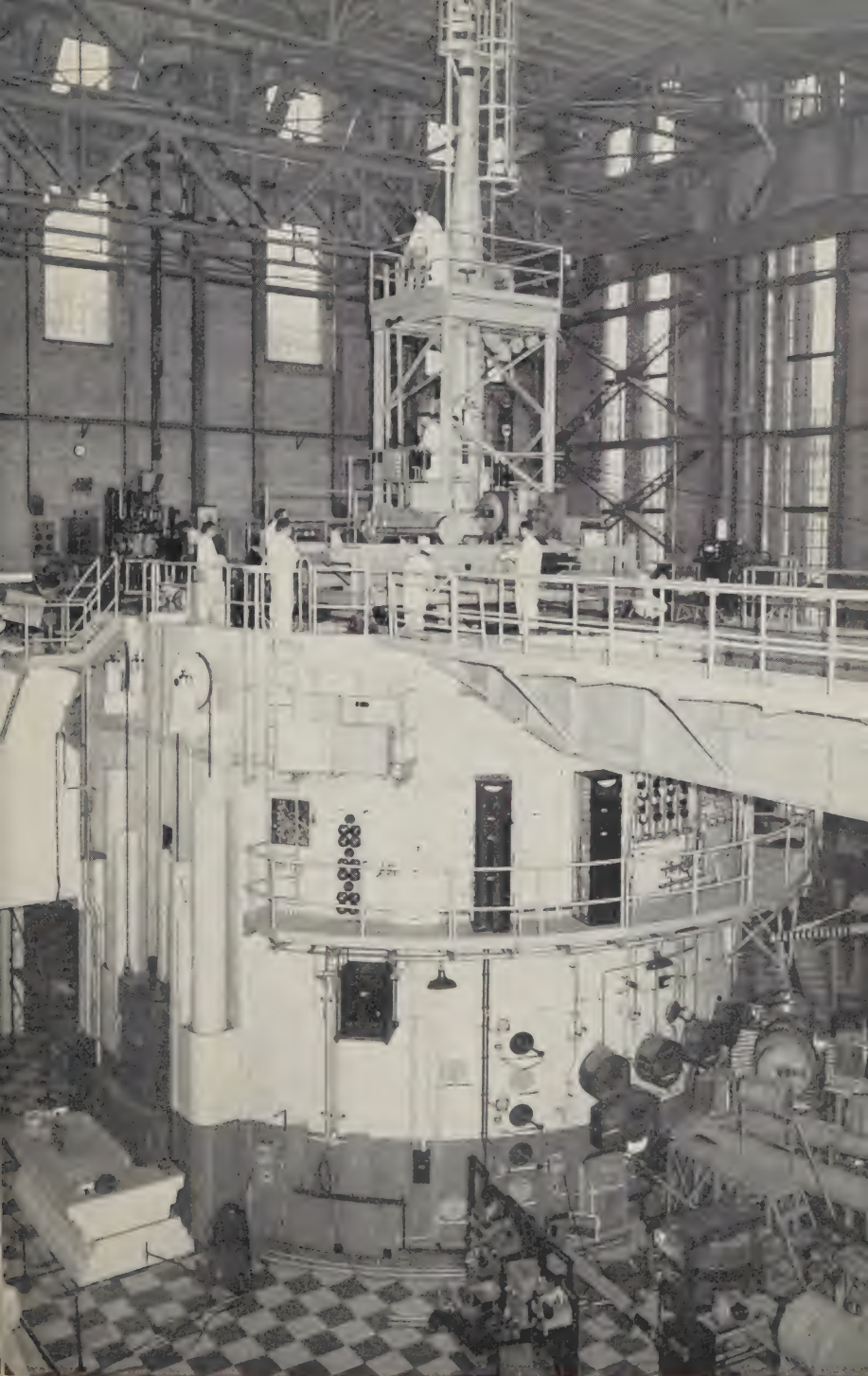
the Crown corporation responsible for the supply of uranium (Eldorado Mining and Refining Limited) and the company responsible for the research and development aspects of the atomic energy program (Atomic Energy of Canada Limited). This holding company reports to Parliament through a Cabinet Minister—the Chairman of the Committee of the Privy Council on Scientific and Industrial Research. The Government also set up an Advisory Committee on Atomic Power Development, consisting of senior executives of power companies throughout Canada. The Committee will keep Canadian power producers informed of the nature and scope of the program at Chalk River and will assist in evaluating the economic importance of possible atomic power in the various regions of the country. A “feasibility study group” was established in co-operation with several public utilities and private companies; its immediate goal is the production of specifications for a pilot power reactor and the evaluation of cost per kilowatt of the electricity produced by such a reactor.

During 1954, experiments were continued and additional knowledge gained of nuclear energy output and of the structure of the atomic nucleus. New and improved electronic instruments were designed for use with the NRX reactor and continue to be studied in the search for greater reliability and reduced size. Studies are being made of the use of plutonium as a nuclear fuel and of new arrangements of fuel elements for power reactors. Radioactive isotopes are being used to study deficiency diseases in mammals and the synthesis of essential constituents of living cells, and studies of the mechanism by which radiation affects living material are being continued.

The Commercial Products Division of the Corporation, located at Ottawa, handles the marketing of radioactive isotopes produced at Chalk River. More than 100 different isotopes may be purchased, their industrial use ranging from the testing of welds to the control of thickness of material. Agriculture and medicine are also served. Even though the production of isotopes ceased during 1953 when the NRX reactor was being reconstructed after breakdown, the Division made more than 1,000 shipments during 1953-54.



Highly radioactive cobalt-60 pellets being moved from the transfer case on the right to the 2½-ton shipping case on the left.



The NRX reactor at the atomic energy project Chalk River, Ont.



Health conditions among Canada's rapidly growing population are being maintained at a high level. Infant and maternal health are favourable and health problems of middle age and later life are now receiving attention from medical and health workers.

Health and Welfare

GOVERNMENT expenditure in the fields of health, welfare and social security is now larger than expenditure for any other peacetime purpose and ranks second only to expenditure for national defence. Though definitions vary as to what should or should not be included in any tabulation of health, welfare or social security expenditure, it may safely be estimated that the total of federal, provincial and municipal expenditure in these fields stands currently at not less than \$1,300,000,000 annually and may be as high as \$1,500,000,000.

• Public Health Services

Responsibility for the planning and supervision of public health services in Canada has rested largely with provincial and local authorities, with assistance from voluntary agencies. In recent years, however, the Federal Government, in keeping with the trend towards shifting at least part of the financial burden to the authority with greater taxing powers, has offered to assist with the costs of capital construction in connection with hospitals and other health facilities and with the extension of specific services through the National Health Program. It has also extended other health services.

The Dominion Council of Health, composed of the Deputy Minister of National Health, the chief health officer of each province and five other members, meets twice a year to co-ordinate federal and provincial activities and to plan the extension of public health programs throughout Canada.

Federal Health Services.—The Department of National Health and Welfare provides consultative services to the provincial health departments and other agencies in such fields as child and maternal health, mental health, nutrition, dental health, environmental health and epidemiology. In addition, it co-ordinates medical research conducted through grants of the National Health Program and conducts research studies on the socio-economic aspects of health care. Important programs are also administered by other departments: Veterans Affairs provides medical and hospital care for veterans; National Defence is responsible for the health of the Armed Forces; the National Research Council makes grants for medical research; and Agriculture has certain responsibilities in connection with food production.

The Federal Government, through the Department of National Health and Welfare, administers many protective measures including the exclusion of infectious diseases at seaports, the medical examination of immigrants, the care of sick mariners, the safeguarding of boundary and other waters against pollution, the distribution of narcotics, and control of the quality of food, drugs and patent medicines offered for sale. The Department is also concerned with the health of Indians and Eskimos and of Federal Government employees. Financial assistance is provided by the Federal Government for remedial services for blind pensioners.

Under the National Health Program, funds are made available to the provinces for the extension of health services and facilities. The program includes grants for general public health, tuberculosis control, mental health, venereal disease control, cancer control, services for crippled children,

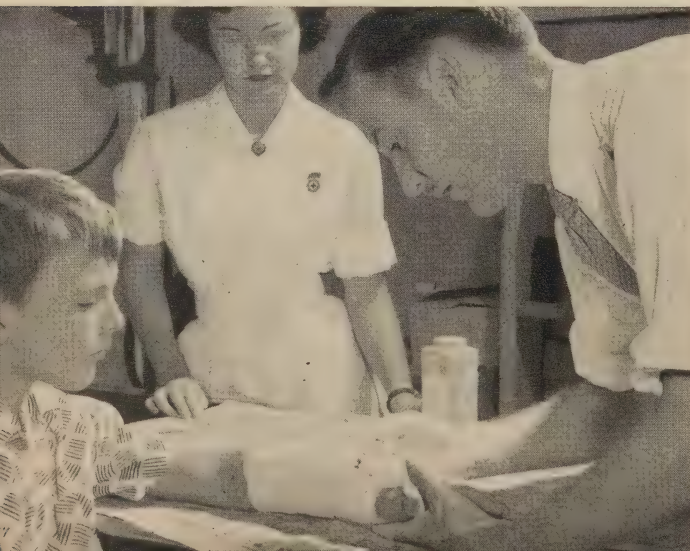
professional training, public health research, hospital construction, laboratory and radiological services, medical rehabilitation and child and maternal health. Grants are also paid to many non-government agencies engaged in health work.

**Federal Health Program Funds Available, by Province,
Year Ended Mar. 31, 1955**

Province or Territory	Hospital Construction Grant ¹	Other Health Grants	Total ²
	\$	\$	\$
Newfoundland.....	261,263	966,433	1,227,696
Prince Edward Island.....	107,077	298,788	405,865
Nova Scotia.....	1,074,736	1,441,203	2,515,939
New Brunswick.....	1,359,071	1,210,029	2,569,100
Quebec.....	4,149,584	9,211,923	13,361,507
Ontario.....	4,939,802	9,745,142	14,684,944
Manitoba.....	923,037	1,730,390	2,653,427
Saskatchewan.....	1,220,206	1,816,953	3,037,159
Alberta.....	1,015,474	2,095,880	3,111,354
British Columbia.....	1,610,391	2,600,053	4,210,444
Northwest Territories.....	43,311	46,611	89,922
Yukon Territory.....	25,746	27,936	53,682
Canada.....	16,729,698	31,191,341	47,921,039

¹ Includes a carry-over of \$10,046,038 from previous five-year period. ² Excludes public health research grant amounting to \$512,900 which is not allotted by province.

Provincial and Municipal Health Services.—Although basic local health services such as sanitation, communicable disease control and registration of births, deaths and marriages are generally the obligation of cities, municipalities, counties or other local units, provincial governments have gradually assumed increased financial responsibility, with correspondingly increased supervision and control. The provincial departments of health generally plan and direct such health services as vital statistics, infant, child and maternal hygiene, public health laboratories, health education and public health nursing, as well as communicable disease control and public health engineering.

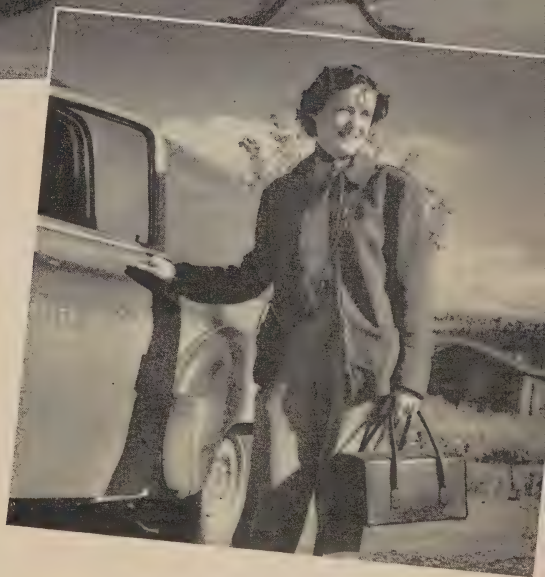


Almost half of the active civilian physicians in Canada are in general private practice, 25 p.c. in specialist private practice, 15 p.c. in hospitals and 11 p.c. in other phases of medicine.

ities and towns provide a wide range of basic health services such as public health nursing, sanitary inspection, communicable disease control and health education. Financial and administrative responsibility is shared by the provincial and local authorities involved.



Public nursing service in the Yukon and Northwest Territories is provided by the Federal Government.



Diagnostic and treatment clinics are provided in various provinces for such diseases as tuberculosis, venereal diseases, cancer, poliomyelitis and mental illness. Vaccines, sera and other special drugs are, on occasion, supplied by provincial laboratories to practising physicians as well as to public health officials. Other activities of the local and provincial health departments include dental services, school medical services, epidemiology and industrial hygiene. Public hospitals for acute diseases receive provincial grants, frequently supplemented by aid from municipalities and private benefactors. Most provinces operate tuberculosis sanatoria or contribute to their maintenance, but mental hospitals are usually wholly provincial institutions.



Municipally organized clinics, through the administration of vaccines and through general health education, help considerably in combating infant ills.

Free treatment for all illnesses is given to indigents and, in some provinces, to all residents for certain diseases such as tuberculosis. In Alberta a maternity hospitalization service is provided by the Province. There is a provincial government prepaid hospitalization program in Saskatchewan supported by an annual tax on each resident with a maximum payment for a family, and one in British Columbia supported by a sales tax. The Newfoundland Government operates cottage hospitals in outport areas and, in conjunction with these, medical and hospital care is provided upon payment of an annual fee. Private prepaid medical care and hospital insurance plans have been developed extensively throughout Canada.

Non-governmental Health Agencies.—In addition to many local and provincial health organizations, major national agencies are: the Canadian Red Cross, which has converted its wartime blood-donor service into a civilian blood bank and transfusion service; the Victorian Order of Nurses, with well-established home-nursing and maternity services; the Order of St. John, with its training and service in first aid, home-nursing and blood grouping; and the Canadian Tuberculosis Association, whose provincial branches conduct mass X-ray surveys and educational programs. The Health League of Canada sponsors educational and publicity work in health generally and the Canadian Mental Health Association operates similarly in its field. The Department of National Health and Welfare was instrumental in forming the National Cancer Institute and the Canadian Arthritis and Rheumatism Society. These and other national health agencies have been established for purposes of education, publicity, research and other services.

Statistics on Institutions.—The statistical data on the institutional aspects of health, published annually by the Dominion Bureau of Statistics, include detailed information on the different types of institution, on size, ownership, costs of operation, sources of revenue, movement of patients, personnel and services rendered. Because mental illness and tuberculosis are especially important in the public health field, additional details are given on the patient population in mental institutions and tuberculosis sanatoria.

In 1953, Canadian hospitals had 1,116 beds for every 100,000 of the population. Of this bed capacity, 88·6 p.c. was available in public hospitals, that is, in hospitals that are not operated for profit, that accept all patients regardless of ability to pay, and that are recognized as public hospitals by the province in which they are located. Private hospitals, those that ordinarily restrict their admissions to patients paying for the care provided at rates

Technician putting the finishing touches on a brain model of wood and plastic. The model will be used as a teaching aid for students at the Neurological Institute, Montreal.



A nurse checks her records in a ward at the Neurological Institute.





Culture room at the Connaught Medical Research Laboratory, Toronto. The technician is drawing off the medium containing poliomyelitis virus, the last stage in the manufacture of the virus to be used for the preparation of poliomyelitis vaccine.

determined by the management, accounted for 2.0 p.c. of the bed capacity. The remaining 9.4 p.c. was in federal hospitals, which are those operated for special purposes related to federal departmental administration, such as care of war veterans, members of the Armed Forces, Indians and immigrants, as well as for quarantine and other purposes.

Summary Statistics of Hospitals, 1953

Item	General	Special	Mental	Tuberculosis	Total
	No.	No.	No.	No.	No.
Public Hospitals—					
Number reporting.....	751	59	69	60	939
Bed capacity.....	72,943	8,809	49,290	15,150	146,192
Average daily population.....	55,939	7,280	56,308	14,130	133,657
Admissions.....	2,115,695	56,661	18,938	16,376	2,207,670
Private Hospitals—					
Number reporting.....	51	92	4	1	148
Bed capacity.....	836	2,055	435	15	3,341
Average daily population.....	2,338 ¹	..	419	2	2,759
Admissions.....	47,959 ¹	..	2,848	..	50,807
Federal Hospitals—					
Number reporting.....	40	7	—	9	56
Bed capacity.....	11,297	2,198	—	1,942	15,437
Average daily population.....	10,594 ¹	..	—	1,825	12,419
Admissions.....	80,065 ¹	..	—	1,405	81,470
All Hospitals—					
Number reporting.....	842	158	73	70	1,143
Bed capacity.....	85,076	13,062	49,725	17,107	164,970
Average daily population.....	68,871	7,280	56,727	15,957	148,835
Admissions.....	2,243,719	56,661	21,786	17,781	2,339,947

¹ Includes general and special hospitals.

Of the 2,339,947 admissions in 1953 to Canadian hospitals, 2,243,719 or 95.9 p.c. were to general hospitals, 0.9 p.c. were to mental institutions and 0.8 p.c. to tuberculosis institutions. However, only 46.3 p.c. of the average

daily population of all hospitals was in general hospitals. Mental institutions accounted for 38·1 p.c. and tuberculosis institutions for 10·7 p.c. These differences in proportion are explained by the greater turnover of patients in general hospitals where the average stay was approximately ten days as compared with over ten months in tuberculosis institutions. The average stay of patients who were discharged from mental institutions in 1953 was 9·6 months, and 16·8 p.c. of those who died in such institutions in 1953 had been there for an average of almost seven years.

• *Welfare and Social Security*

Voluntary groups and local authorities provided the first welfare services in Canada. Early provincial participation was highlighted by the first modern

*Occupational therapy
aids recovery in the
Hospital for Sick
Children, Toronto.*





Social workers from forty countries came to Canada in the summer of 1954 to discuss with Canadian representatives world-wide social problems and to add to and gain from the pool of knowledge in their field of mutual interest—human welfare.

child protection Act passed by Ontario in 1893, the Ontario Workmen's Compensation Act of 1914 and the Manitoba mothers' allowances legislation of 1916. Since then, provincial welfare services have been developed, extended and improved through the establishment of provincial departments of welfare, or of health and welfare.

The Federal Government entered the social security field in 1927 when the federal-provincial scheme for the provision of old age pensions was instituted. Extension of federal social security activities has gradually taken place and now includes pensions for the blind, unemployment insurance, agricultural relief, family allowances, universal old age pensions, assistance for needy older persons and allowances for disabled persons. Some of these measures are undertaken jointly with the provincial governments.

Federal Welfare and Income Maintenance Programs.—Most Federal Government welfare programs are under the jurisdiction of the Department of National Health and Welfare, whose main functions in the field of welfare include the promotion of social security and the social welfare of the people of Canada, investigation and research, and co-operation with provincial authorities with a view to co-ordinating all efforts in the welfare field. The welfare activities of that Department are outlined below but, in addition, certain programs are administered by other government departments: unemployment insurance is administered by the Unemployment Insurance Commission (*see p. 256*); welfare services for veterans by the Department of Veterans Affairs (*see p. 73*); and the welfare of Indians and Eskimos by the Department of Citizenship and Immigration and the Department of Northern Affairs and National Resources, respectively (*see pp. 35-38*).

Family Allowances.—In general, all children under 16 years of age resident in Canada, including Indians and Eskimos, are eligible for allowances. The allowances, which were introduced in 1944, involve no means test. Though they are not considered as income for tax purposes, the deduction at present allowed a taxpayer on taxable income for a child in receipt of family allowance is \$150 as against \$400 for a dependent child ineligible for the allowance. Allowances are paid by cheque at the following monthly rates: children under 6 years of age, \$5; children 6 to 9 years of age, \$6; children 10 to 12 years of age, \$7; and children 13 to 15 years of age, \$8. Current disbursements under the Family Allowances Act amount to about \$362,000,000 annually.

Family Allowance Statistics, by Province, Month of June 1954

Province or Territory	Families Receiving Allow- ances	Total Children	Average Allowance per Family	Average Allowance per Child	Total Allowances Paid, June 1954
	No.	No.	\$	\$	\$
Newfoundland.....	55,518	164,875	17.77	5.98	986,391
Prince Edward Island.....	13,210	35,582	16.29	6.05	215,259
Nova Scotia.....	96,211	234,650	14.77	6.05	1,420,771
New Brunswick.....	75,445	206,815	16.53	6.03	1,247,473
Quebec.....	590,723	1,578,616	16.19	6.06	9,566,396
Ontario.....	719,635	1,508,564	12.58	6.00	9,056,290
Manitoba.....	117,103	256,489	13.15	6.00	1,540,406
Saskatchewan.....	124,803	284,432	13.81	6.06	1,723,540
Alberta.....	156,708	346,068	13.27	6.01	2,079,052
British Columbia.....	182,345	371,807	12.30	6.03	2,243,345
Yukon and Northwest Terri- tories.....	4,456	10,199	13.79	6.02	61,452
Canada.....	2,136,157	4,998,097	14.11	6.03	30,140,375

Old Age Security.—A pension of \$40 a month is paid to all persons aged 70 or over, subject to a residence qualification of at least 20 years. This universal pension is financed by a 2-p.c. sales tax, a 2-p.c. tax on net corporation income, and a 2-p.c. tax not to exceed \$60 a year on the net taxable income of individuals required to pay income tax. In the year ended Mar. 31, 1954, pension payments exceeded the special tax revenue by about \$46,000,000; the difference was met by a loan from the Consolidated Revenue Fund.

Old Age Security Statistics, by Province, Month of June 1954

Province	Pension- ers	Total Net Payments	Province or Territory	Pension- ers	Total Net Payments
	No.	\$		No.	\$
Newfoundland.....	15,364	617,349	Manitoba.....	43,248	1,729,720
Prince Edward Island...	6,728	271,000	Saskatchewan.....	43,302	1,738,240
Nova Scotia.....	37,455	1,506,182	Alberta.....	43,609	1,749,015
New Brunswick.....	26,690	1,071,320	British Columbia.....	86,339	3,471,370
Quebec.....	154,471	6,155,220	Yukon and N.W.T.....	484	19,517
Ontario.....	267,549	10,747,750	Canada.....	725,239	29,076,683

Old Age Assistance.—The provinces and territories have signed agreements with the Federal Government to provide joint assistance to needy persons aged 65 to 69 years, who have resided in Canada for at least 20 years. The

maximum assistance is \$40 monthly per person, except for a \$30 limit in Newfoundland. Total annual income, including the assistance, cannot exceed \$720 for a single person and \$1,200 for a married couple or \$1,320 if the spouse is blind. The Federal Government pays 50 p.c. of the amount of the assistance up to the maximum, but some provinces and municipalities supplement this from their own funds.

Old Age Assistance, by Province, Month of June 1954

Province or Territory	Recipients	Average Monthly Assistance	Pensioners to Population Age 65-69	Federal Government's Contribution
	No.	\$	p.c.	\$
Newfoundland.....	5,107	29.22	55.5	74,702
Prince Edward Island.....	607	26.58	17.3	8,081
Nova Scotia.....	5,245	33.55	26.9	88,380
New Brunswick.....	5,790	36.99	39.7	107,597
Quebec.....	32,356	37.45	32.4	610,508
Ontario.....	21,798	36.84	13.5	407,190
Manitoba.....	4,772	37.70	16.9	93,871
Saskatchewan.....	4,712	36.78	16.2	89,476
Alberta.....	5,039	36.59	16.7	95,774
British Columbia.....	8,090	37.81	15.5	157,020
Yukon Territory.....	7	38.57	3.8	155
Northwest Territories.....	69	37.48	40.1	1,293
Canada.....	93,592	36.50	20.9	1,734,047

Allowances for the Blind.—All provinces and territories have signed agreements with the Federal Government under which a maximum means-test allowance of \$40 a month is paid to blind persons 21 years of age or over. The maximum yearly income limits, including the allowance, are: \$840 for a single person, \$1,040 for a single person with one or more dependent children, \$1,320 for a married couple one of whom is blind, and \$1,440 for a married couple both of whom are blind. The residence requirement is at least ten years. The Federal Government contributes 75 p.c. of \$40 a month or of the allowance, whichever is less, and the program is administered by the provinces.

Allowances for the Blind, by Province, Month of June 1954

Province or Territory	Recipients	Average Monthly Pension	Recipients to Population Age 20-69	Federal Government's Contribution
	No.	\$	p.c.	\$
Newfoundland.....	332	39.68	0.175	9,892
Prince Edward Island.....	87	37.10	0.160	2,420
Nova Scotia.....	714	38.39	0.200	20,482
New Brunswick.....	731	39.40	0.265	22,192
Quebec.....	2,928	39.01	0.123	86,681
Ontario.....	1,722	38.76	0.058	50,791
Manitoba.....	408	39.16	0.086	12,252
Saskatchewan.....	382	38.67	0.078	10,920
Alberta.....	402	38.33	0.069	11,928
British Columbia.....	488	39.10	0.066	14,493
Yukon Territory.....	2	40.00	0.035	60
Northwest Territories.....	14	39.29	0.165	502
Canada.....	8,210	38.91	0.096	242,613

Allowance for Disabled Persons.—In June 1954, Parliament passed the Disabled Persons' Act under which a joint federal-provincial allowance, not exceeding \$40 a month, will be paid to totally and permanently disabled persons who are not in hospital or an institution. The residence requirement is at least ten years and the income limit, including the allowance, is \$720 a year for a single person, \$1,200 for a married couple and \$1,320 where the spouse is blind. By the end of 1954, nine provinces had indicated their intention of participating in the program, which will operate from January 1955.

Provincial Programs.—The care and protection of neglected, dependent and delinquent children, care of the aged, social assistance or relief, and other special programs are governed by provincial legislation, although in many areas responsibility for such services rests with municipal or voluntary organizations. Provincial Departments of Welfare are taking increasing responsibility for the co-ordination and supervision of welfare services. Though the programs and the methods of financing vary considerably, most provinces share the costs of some or all of the municipal services in organized areas and assume the total cost in unorganized territories.

Mothers' Allowances.—All provinces enacted legislation between 1916 and 1949 providing allowances to certain categories of needy mothers with dependent children under the age of 16 years. When the child is physically or mentally incapacitated, or attending school, the age limit may be extended in some provinces. "Needy mothers" include widows, foster mothers and wives whose husbands are mentally incapacitated. In some provinces, they also include deserted, divorced, legally separated and unmarried mothers and, in most provinces, those whose husbands are physically incapacitated.

Eligibility requirements vary by province and include a means test, one to five years residence, Canadian or British citizenship (in six provinces), and some require that the mother be of good moral character. Total costs of the program are paid from provincial treasury funds, except in Alberta where a small portion of the allowance is charged to the municipality of residence.

Scholastic achievement among blind pupils is high. Courses are standard with the addition of braille and typing and in most cases these handicapped children leave school equipped to become self-supporting and useful citizens.



The maximum allowance for a mother and one child varies from \$25 a month in Newfoundland and Prince Edward Island to \$62.50 a month in British Columbia, although the actual amount paid depends on the circumstances of the individual applicant. An additional amount is paid for each subsequent child and, in most provinces, for a disabled father living at home. In certain provinces a maximum allowance is set for a family, varying from \$50 in Prince Edward Island to \$150 in Manitoba. Where special need is apparent, supplementary allowances are usually available.

Workmen's Compensation.—For accidents occurring in the course of employment, compensation is payable to workers or, in fatal cases, to their dependants in accordance with the law of each province. The cost of compensation and medical aid is borne by employers through a collective liability scheme administered by the province. Monthly pensions at a fixed rate are paid to widows and children. Injured workmen receive from two-thirds to three-quarters of their earnings during total disablement. For partial disablement, the benefits are related to earning capacity before and after the accident.

Other Welfare Services.—There are many voluntary organizations in existence whose efforts are directed to social welfare. The Canadian Welfare Council, a national association of public and private agencies, provides a means of co-operative planning and action by serving as a link between voluntary agencies and between public and voluntary agencies. Specialized organizations, such as the Canadian National Institute for the Blind, which functions in every field of welfare for the blind, and the Canadian Council of the Blind occupy somewhat similar roles in their particular fields. In areas where they have been set up, welfare councils co-ordinate and encourage local activities and community chests centralize financial campaigns. The work of the Young Men's Christian Association, the Young Women's Christian Association, the Catholic Youth Organization and the Young Men's Hebrew Association, the Boy Scouts, Girl Guides and similar youth organizations in what may be described as preventive rather than curative services cannot



Thousands of young Canadians each year learn safety rules in and around the water from volunteer Canadian Red Cross Society instructors, many of them schooled in special instructor courses.

civil defence welfare organizations are being set up in many cities and towns. Volunteers, working under the direction of their local public welfare departments, are developing plans and establishing operational organizations in emergency feeding, clothing, lodging, etc.



be overlooked nor can the work of the many nationally organized service clubs. Most of the activities of these organizations are not susceptible to statistical measurement. The Canadian Red Cross Society, the Victorian Order of Nurses, and the Order of St. John, also perform many welfare services, though they are more properly designated as public health organizations.

Welfare Institutions

In 1950 there were 533 charitable, benevolent and welfare institutions operating in Canada, including 218 homes for adults, 102 homes for adults and children, 170 orphanages and Children's Aid Societies, and 43 day nurseries. Welfare organizations that do not operate institutions are not included in this number nor are licensed boarding homes for welfare patients. Of the total institutions reporting, 52 p.c. were operated by religious organizations, the provincial percentages of institutions thus operated ranging from a high of 88 in Quebec to a low of 32 in Nova Scotia, Ontario and British Columbia. Boards operated about 30 p.c., the provincial percentages ranging from 44 in Ontario to 10 in Quebec. The institutions operated with a total full-time staff of 9,573 and part-time personnel numbering 1,041. At the end of 1950 there were 39,681 persons under care, the average length of stay being 178 days. Most of the patients are either under 20 years of age or over 60.

Statistics of welfare institutions are collected once every five years.

• Veterans Affairs

The Department of Veterans Affairs administers the legislation relating to allowances, treatment, rehabilitation and welfare, and land settlement for veterans. The Canadian Pension Commission administers the Pension Act and the Civilian War Pensions and Allowances Act, under which pensions are paid for disability and death caused by the wars in which Canada has participated. Administration is decentralized through 18 district offices in

Canada, located in all provincial capitals and most large cities, and one district office at London, England.

Disability pensions and pensions to the dependants of deceased servicemen amounted to approximately \$126,000,000 in the year ended Mar. 31, 1954. In the same year, nearly \$55,000,000 was paid in allowances to veterans and the dependants of veterans.

Medical treatment for veterans is provided by the Department in its own institutions and in a number of wings or pavilions in public general hospitals. As at Mar. 31, 1954, the Department was operating 12 active treatment hospitals with 9,082 beds, two health and occupational centres for convalescents with 365 beds and one tuberculosis sanatorium with 200 beds. Eleven of these hospitals have been approved by the Royal College of Physicians and Surgeons of Canada for advanced post-graduate teaching in internal medicine and general surgery, and seven are also approved for advanced post-graduate teaching in specialties. An extensive program of medical research is carried on, two of the current major projects being concerned with atherosclerosis and geriatrics.

To provide domiciliary care for physically handicapped and aging veterans, the Department operates four homes with 327 beds and, in addition, has allocated wings in several of its hospitals to this purpose. The Veterans

The east block of the Veterans Memorial Buildings, located on Wellington Street, Ottawa, was completed late in 1954 and now houses the Department of Veterans Affairs. The west block is under construction.





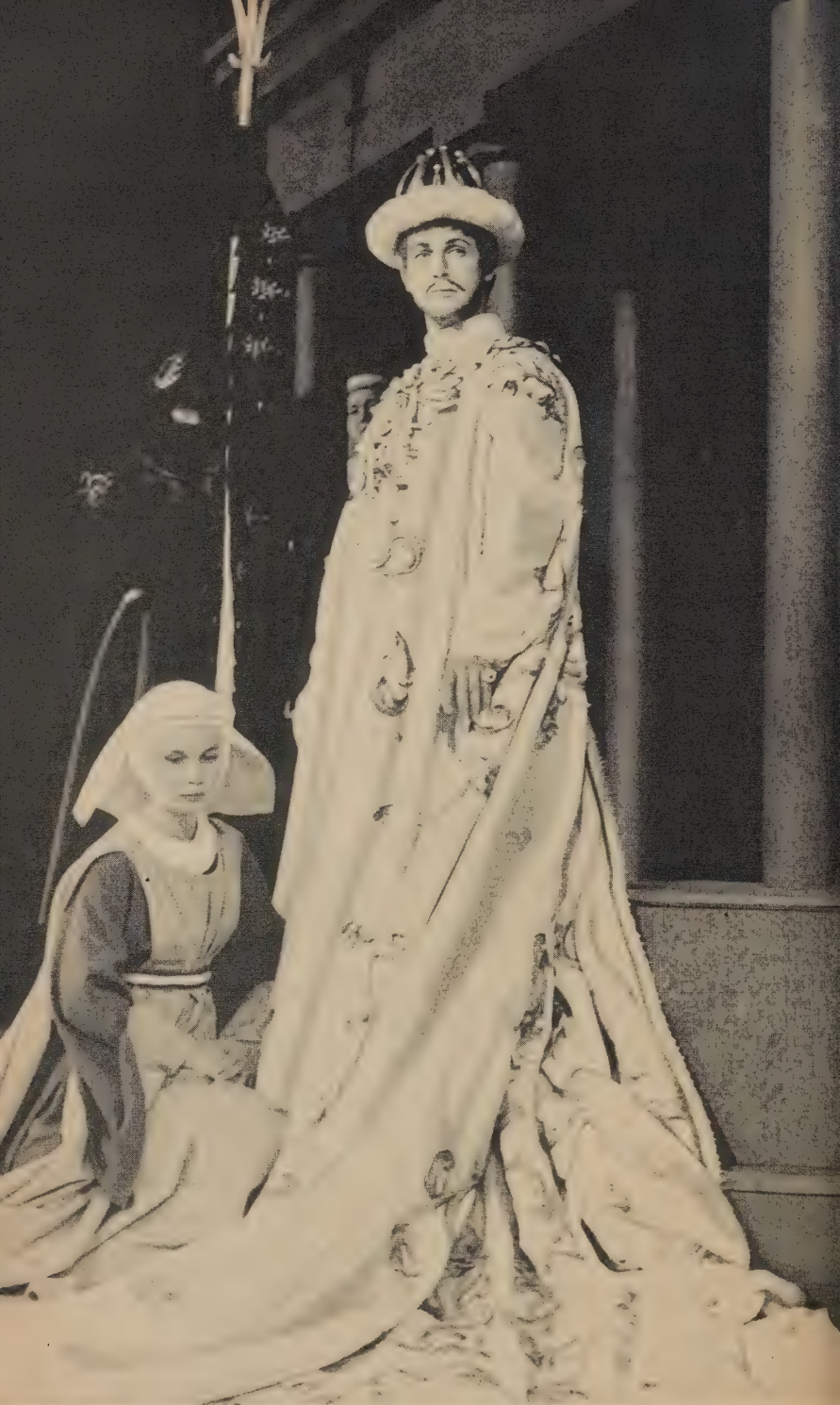
The 325-bed hospital at Ste. Foy, Que., opened by the Prime Minister on May 16, 1954, is the newest link in the country-wide chain of DVA hospitals.



Hospitalized veterans are encouraged to help themselves by learning and engaging in useful and pleasant pastimes.

Welfare Services Branch gives special attention to the training and rehabilitation of seriously disabled veterans, to the employment of older veterans and to the social problems of veterans.

Approximately 65,000 veterans have been assisted to settle on farms, small holdings and commercial fishing establishments under the provisions of the Veterans' Land Act, involving an investment of public funds of over \$300,000,000. At the end of March 1954, 18,549 new houses had been completed, or were under construction, since the inception of the Act in 1942. New houses started during the year numbered 1,876, about 85 p.c. of which were under contract to the veterans themselves. The Act has recently been amended to provide assistance to veterans wishing to build their own homes on lots suitable for single-family dwellings. The Veterans' Land Act Branch has eight district offices and 35 regional offices to serve veterans throughout Canada.



Frances Hyland as Isabella and Lloyd Bochner as the Duke in the 1954 Stratford Shakespearean Festival production "Measure for Measure".

Social and Cultural Relationships

IN all parts of the country Canada is enjoying a period of cultural growth and comparative well-being. The widespread evolution of many forms of artistic activity, and the acceptance of this evolution as a normal factor in the Canadian way-of-life, have been particularly notable since the end of World War II. From the earliest times, Canada has had a tradition of both indigenous and derived literature, music, art, dancing and handicrafts, but for nearly three hundred years the development of these arts faltered and was notably localized. In the period between the two world wars, with interest in foreign relationships expanding both politically and economically, Canada's intellectual and cultural growth speeded up; but the pace was still relatively slow. To a considerable extent, cultural activities were regarded as the amusement of social and ethnic minorities and there was little sense of national artistic heritage. Since 1945, however, Canada has been experiencing a period of cultural maturing and the growth of activity in the arts has kept pace with the country's general condition of economic prosperity. Activity in all the arts has increased manifold throughout the country and public interest has become very widespread. Of particular significance is the current tendency to recognize and develop national aspects of the arts, along with regional developments.

This tendency received great impetus in 1949 when the Federal Government appointed a Royal Commission to enquire into the matter of national development in the arts, letters and sciences. After an exhaustive examination of the country's cultural and intellectual resources, the Commission made a notable report. Among other things, it recommended the setting up, by the Federal Government, of a "Canada Council"—a body which would stimulate cultural developments as an aspect of official public policy. Although the establishment of the proposed Council has not yet occurred, the prospect of its coming into being has had favourable results. Canadians from the Atlantic to the Pacific, stimulated by a national radio broadcasting system and by an excellent network of independent newspapers and magazines, are taking an active interest in something which is not artistic nationalism but rather national artistic awareness. This is a definitely new and important development in Canada.

Creative writing by Canadians is probably the most obvious cultural activity having a tendency to knit the people of the nation more closely together and it has been effective for more than half a century. Other art forms are now making important contributions toward national unity—during 1954 this trend was clearly seen in such activities as the Dominion Drama Festival, the Stratford Shakespearean Festival, the Canadian Ballet Festival, the tour of Toronto's National Ballet Company, the circulating exhibitions of Canadian paintings and the work of the Canadian League of Composers.

Of great importance to Canada's cultural life is the newly expressed interest of the industrial and business community. Support of the arts, not as a form of patronage but as an act of mutual advantage, has recently become a definite part of the public relations programs of large Canadian

corporations. The commissioning of paintings and musical compositions, the purchasing of decorative sculpture, the financing of scholarships, the sponsoring of ballet and dramatic performances, and other similar activities, are now associated with the names of eminent business firms throughout Canada.

Another important source of impetus for the arts in Canada in recent years has been a number of cultural development boards set up and financed by the provincial governments. The Province of Quebec has always officially sponsored the arts within its borders, but in the English-speaking provinces the trend is a new one and an extremely important one. The Saskatchewan Arts Board, the Cultural Development Board in Alberta, Ontario's Community Planning Division and the Adult Education branch of the Nova Scotia Department of Education all initiated many imaginative cultural projects in 1954.

Literature

In the past ten years there has been observed a clear-cut development in Canadian creative writing—a trend away from purely 'local' literature toward writing from a more cosmopolitan and universal point of view. This development was particularly notable in 1954 when a number of books by Canadians attracted critical comment from foreign reviewers. The proportion of Canadian-made books, in relation to imported books, has been increasing in recent years and 1954 was no exception. An event of interest in Canadian literary circles was the celebration of its 125th anniversary by the famous Canadian publisher, the Ryerson Press. The selection of winners of the Governor General's awards for Canadian literature met with widespread agreement and approval in 1954—an occurrence which has been rare since the awards were initiated. It is a matter of satisfaction that the craft of writing is providing a comfortable livelihood for an increasing number of Canadians, including a rather significant number of recent immigrants.



"Sunshine Town"
musical play
based on the
stories of an Ontario town made famous by the late Stephen Leacock will tour Ontario and Quebec in the autumn of 1954.

the Stratford Shakespearean Festival, in its two successful seasons, has given Canadian actors an opportunity to prove themselves on their home ground before an international audience. People came from every Province in Canada and every state in the United States as well as from England, Europe, South Africa and even Greenland.



Scene from the Festival production "Oedipus Rex", a Greek drama that has thrilled audiences for over 2,000 years. Masks and built-up shoes made this production larger than life, a device of the ancient classic theatre.

Theatre

The theatre situation in Canada is one of promise and encouragement, although 1954 was a spotty year with notable ups and downs. Again the Shakespearean Festival at Stratford in Ontario was the main centre of interest. The Festival wound up its eight-week second season with a net profit of \$36,000 and working capital of \$150,000. Plans for the 1955 Festival were announced early and they include a series of musical performances and a school of theatre, in addition to the production of plays. Throughout Canada amateur theatre has been thriving and the 22-year-old Dominion Drama Festival, a competitive culmination of theatre activities from coast to coast, proved to be a thorough-going success again in 1954. Summer theatres have sprouted in many parts of the country during the past several years and are providing work for a large number of Canadian actors. Professional theatres



A performance of the Montreal Junior Symphony Orchestra.

in Canadian cities are still a rarity and very few have succeeded in standing up to the economic difficulties year after year. Toronto's Crest Theatre had a successful 1954 but Ottawa's Canadian Repertory Theatre ran into box-office difficulties which threatened to close down the operation at the end of 1954. Civic concern over losing the theatre led to vigorous action by a group of citizens, however, and CRT's activities continued over into 1955. Notable success was gained by the Canadian Players—made up of actors associated with the Stratford Shakespearean Festival—when they toured Eastern Canada and parts of the United States with a stylized version of Shaw's *Saint Joan*. Montreal's Le Théâtre du Nouveau Monde experienced its fourth successful season in 1954, producing top-calibre shows and operating a school of the theatre. At the year-end it was announced that a new Canadian musical play, *Sunshine Town*, based on the famous stories by the late Stephen Leacock, would open at Montreal and Toronto early in 1955. The show involves fifty speaking parts, elaborate settings and costumes, fully orchestrated music scores and a group of sixteen ballet dancers.

Music

Since the earliest times, music has been an important and integral part of the Canadian way of life, and with the development of means of communication and the growing sophistication of the country this importance has not diminished. In all communities, large and small, musical organizations are thriving and in all the provinces the importance of musical education is emphasized. Public schools provide free musical training from the first grades throughout the child's entire school life. Advanced musical training is available in most universities and in several distinguished conservatories.

The Canadian Music Festival Association is an organization of national importance and under its aegis annual festivals, involving many thousands of contestants, are the musical highlights of a score of Canadian cities.

In a dozen cities, symphony orchestras are receiving generous public support and are rendering valuable services to their communities. Orchestras in Toronto, Montreal, Winnipeg and Vancouver are staffed with professional musicians of genuine talent and in these cities symphonic concerts of considerable merit are regular fare. The Canadian Broadcasting Corporation's Toronto orchestra is a top-flight musical organization; the CBC's policy of encouraging local orchestras is an important factor in the national music picture.

Since 1945 there has been a notable increase in the public interest in the performance of opera and well-established operatic organizations now flourish



The enjoyment of participating in the production of good music is universal and many people whose daily occupations are far removed from the cultural level find pleasure and relaxation in belonging to local musical organizations.



in Toronto, Montreal, Halifax, Winnipeg and Vancouver. The Opera Company of the Royal Conservatory of Music of Toronto staged its fifth successful festival in 1954 and a new company—the National Opera Company of Canada—was organized.

Of considerable importance is the recent success of Canadian composers, both at home and abroad. Recognition of their works by the music industry, the critics and the public is largely a result of the work of the Canadian League of Composers and its 1954 offspring, Canadian Music Associates. Until recently the works of Canadian composers rarely received attention or public performance but during the past several years this situation has been changed and Canadian works are frequently heard at concerts, over the radio and on recordings. As in the field of art, healthy controversy, serious and critical, is now developing with reference to the work of Canadian writers of music.

Ballet

In all the cities of Canada, schools of ballet are thriving and attractive ballet courses are offered at several of the country's best summer schools. A number of ballet experts have come to Canada from European countries since the end of the War and are making valuable contribution to the promotion of the art of dancing in their chosen homeland.

Canada's two major professional ballet companies experienced widely differing fortunes in 1954. The Royal Winnipeg Ballet, long-established and eminently successful, suffered a disastrous loss when fire destroyed all its physical assets—costumes, sets, books, scores, records and documents. Plans for 1954–55 activities had to be abandoned and many of the company's talented dancers were obliged to seek professional engagements elsewhere. Public sympathy from all parts of Canada and from cities in the United States where the Royal Winnipeg Ballet had performed could not repair the damage, however, and a Winnipeg citizens' committee immediately undertook to raise a fund of \$50,000 to re-establish the organization. Meanwhile, Toronto's National Ballet Company continued to gain public approval and the favourable regard of critics. Touring with a full ballet troupe and



A ballet performance combines the talents of the musical director, the artistic director, the choreographer and the dancers. The Classical Ballet Company of Ottawa prepares for a Festival appearance.

Principals of the Royal Winnipeg Ballet, one of Canada's two major professional companies, which, before its recent misfortune, had gained wide recognition and prestige.



orchestra and a wide repertoire of both classical and modern dances, the Company had a successful season over a wide circuit stretching from Chicago to Quebec.

Arts

Throughout Canada all forms of the visual and plastic arts are thriving, with both public interest and public participation at a high level. The number of exhibitions offered to the public by Canadian galleries reached an all-time high in 1954 and attendance at art shows continued to increase. Of unusual interest is the growing number of small rural communities, in all the provinces, where touring collections of paintings are exhibited and where local groups of citizens have taken up painting as a leisure-time activity. Art schools are crowded; winter, summer, day and evening classes are all fully patronized. A great many professional artists in Canada are engrossed with the universal modern trends in art, involving the several degrees of non-representational communication or statement, a new media and experimentation. Of some importance was the significant number of artists who were invited to exhibit in noted galleries abroad during 1954. Critical interest and wholesome controversy was accorded the work of Canadian painters at home and in other countries during the year; two notable examples were the world tour of a collection of paintings of Canadian cities sponsored by a large commercial establishment and an exhibition of 150 miscellaneous Canadian paintings at London, England. The Canadian Government's competition for a sculptured memorial statue of the former Prime Minister, Sir Robert Borden, was won by Miss Frances Loring of Toronto, a former President of the Canadian Sculptors Society. Controversies involving artists,



An outstanding contribution to the development of the arts in Canada has been made by H. O. McCurry, LL.D., who retires as Director of the National Gallery of Canada on May 1, 1955. Dr. McCurry spent 36 of his 45 years of government service with the Gallery and has been its chief administrator since 1939. A full account of his work in the field of art is given in the Spring 1955 edition of "Canadian Art".

galleries, societies, curators and the public, were more numerous than usual in 1954 and this was regarded as further evidence of the artistic maturing process in the country.

The National Gallery of Canada, encouraged by a recently established policy of greater generosity on the part of the Government, is growing in stature and leadership throughout the country. The long-awaited construction of a new gallery came no nearer realization in 1954 and the present congested quarters of the institution tend to lessen its general effectiveness.

Cultural Organizations

Cultural organizations serving as focal centres for Canadian painters, musicians, writers, dancers, dramatists and others concerned with the arts, have grown in number and importance in recent years and for many of them 1954 was a banner year of activity. Most societies serve very effectively on a local basis but a number of them have national ramifications and exercise considerable influence in the moulding of public opinion. The Canadian Arts Council, which celebrated its tenth anniversary in 1954, is a federation of national organizations which dominate much of the professional cultural life of Canada, including: the Royal Architectural Institute of Canada, the Canadian Authors Association, La Société des Écrivains Canadiens, the Federation of Canadian Artists, the Canadian Music Council, the Canadian Handicraft Guild, Canadian Guild of Potters, Canadian Group of Painters,

Canadian Paintings from Travelling Art Gallery

Murals, depicting national and provincial park scenery from Nova Scotia to British Columbia, are part of the Canadian decorative theme in the new dome lounge cars now in transcontinental service on the Canadian Pacific Railway. The murals were sponsored by the Royal Canadian Academy of Arts and include the work of eighteen leading Canadian artists. Five of the paintings are reproduced here.



Prince Albert National Park
Saskatchewan

Fred J. Finley, A.R.C.A., O.S.A.



Fundy National Park
New Brunswick

Lawren P. Harris, Jr., A.R.C.A.



Laurentide Provincial Park
Quebec

Albert Cloutier, A.R.C.A.



Sibley Provincial Park
Ontario

Yvonne McK. Housser, R.C.A., O.S.A.



Kootenay National Park
British Columbia

George D. Pepper, A.R.C.A., O.S.A.



A. J. Casson, R.C.A., O.S.A., of Toronto, Ont., at work on his portrayal of Ontario's Algonquin Park. He has won many awards for his renditions of northern Ontario landscapes and villages. Mr. Casson is immediate past president of the Royal Canadian Academy of Arts and the Ontario Society of Artists.

Thumbnail sketches of the five artists whose work is reproduced here in colour—

FRED J. FINLEY, A.R.C.A., O.S.A., of Toronto, Ont., painted the mural of Prince Albert National Park in Saskatchewan. The main panel is a view near the resort town of Waskesiu looking towards Kingsmere Lake, and incorporates the wildlife of the area as well as Indian activities. Although a native of Australia, Mr. Finley is a long-time resident of Canada and has travelled extensively in Europe.

LAWREN P. HARRIS, JR., A.R.C.A., of Sackville, N.B., who painted Fundy Park on the north shore of the famous Bay, is Director of the Mount Allison School of Fine Arts. He studied in his native Toronto and in the United States, and during World War II served with the Canadian Army and was an official Canadian war artist.

ALBERT CLOUTIER, A.R.C.A., of Montreal, Que., executed the mural of Laurentide Park, north of Quebec city. He studied in Montreal and in 1941 was art director for the Wartime Information Board and later became an official war artist with the R.C.A.F. He is a member of the Canadian Society of Painters in Water-Colour.

MRS. YVONNE McK. HOUSSE, R.C.A., O.S.A., of Markham, Ont., portrayed Sibley Park in the Thunder Bay area of northwestern Ontario. She is a graduate of the Ontario College of Art and has studied in Paris, Italy, Vienna and the United States. She won the Purchase Award at the Canadian National Exhibition in 1953.

GEORGE D. PEPPER, A.R.C.A., O.S.A., of Toronto, Ont., in his painting of Kootenay Park in southern British Columbia used Mount Harkin in the background and a rich tapestry of the flora and fauna of the area in the foreground. He is vice-principal of the Ontario College of Art, from which he graduated in 1924. He has also studied in Europe and during World War II was an official war artist with the Army.

Canadian Society of Painter-Etchers and Engravers, Sculptors Society of Canada, Canadian Society of Graphic Arts, Canadian Society of Landscape Architects and Townplanners, the Arts and Letters Club, the Canadian Ballet Association and the Canadian Society of Creative Leathercraft. The Royal Canadian Academy of Arts is the officially sponsored prestige body in the field of fine art although most of the newer and more specialized art groups are vigorous and influential.

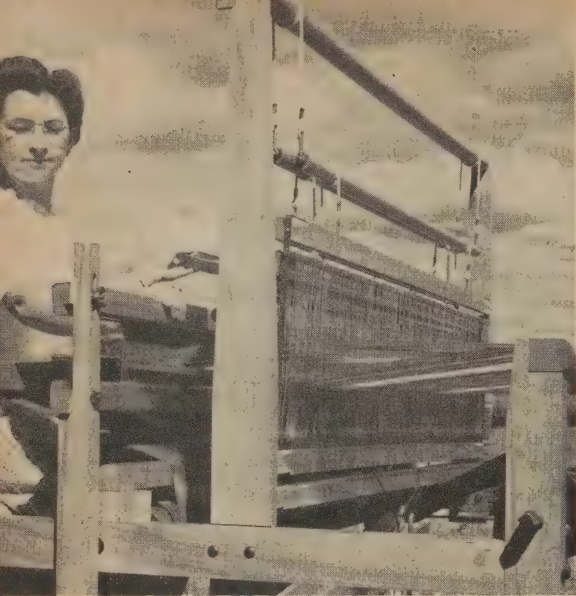
Summer schools of the arts in many parts of Canada were well patronized in the 1954 season. Some of the more noted are: the Banff School of Fine Arts at Banff, Alta.; the Doon School near Galt, Ont.; Maritime Summer School of Mount Allison University, Sackville, N.B.; Queen's University, Kingston, Ont.; L'École des Beaux-Arts, Quebec, Que.; and the Regina College Summer School at Emma Lake, Sask.

Handicrafts

The promotion and encouragement of handicrafts is highly developed throughout Canada, and organization is in the form of voluntary societies and government-sponsored groups at the national, provincial and local levels. Some of the skills and crafts have been practised in Canada since the earliest times when the actual needs of pioneer life demanded home manufacture of furniture, rugs, cloth, dishes, utensils, clothing and ornaments. To the knowledge and skill of indigenous crafting has been added the handicraft talent of immigrant peoples from every country in Europe, with a resultant variety probably not equalled elsewhere.

The use of wood as a medium of artistic expression has been a specialty in the Province of Quebec since the days of colonization. Wood carvings produced to-day, by methods handed down generation after generation, are reminiscent of the rural life of those early times.





A co-operative enterprise in New Brunswick markets hand-woven articles made by women working at home. Wools used are of local origin, specially dyed to order.

Provincial governments and the extension departments of universities maintain staffs of highly trained and skilled handicraft workers who organize groups, train leaders and sponsor exhibitions. Many civic governments employ skilled handicraftsmen to teach and organize at community centres, and civic exhibitions of crafts are frequent. In most cities handicrafts are taught in the local schools. The Federal Government promotes handicraft activities among its wards—the Indian and Eskimo peoples.

The Canadian Handicraft Guild, with a number of provincial subsidiary branches, is a strong and vigorous citizens' organization devoted to the promotion of all forms of handicraft. A number of individual crafts are organized within the general handicraft network and promote the welfare of their particular groups. The Canadian Guild of Potters and the Canadian Leathercraft Guild, representing a fine arts aspect of their crafts, are members of the Canadian Arts Council.

Museums and Art Galleries

Although there are in Canada no museums and art galleries comparable with the wealthy and long-established institutions to be found in other leading nations, those in the national capital and in the larger cities offer encouragement to the smaller provincial and local ones through generous programs of travelling exhibitions, lecture tours, and reproductions, and in recent years a newly awakened consciousness of the significance of such institutions to the cultural life of the people has become evident at the federal, provincial and municipal levels.

The National Museum, although essentially a museum of natural history carrying on scientific research in zoology, botany and anthropology, has collected an extensive exhibit of Indian and Eskimo lore and many phonographic recordings of French-Canadian, English-Canadian and Indian songs. Other federally operated museums include the Canadian War Museum, the

nucleus of a historical museum housed in the Public Archives, a collection of aviation exhibits in the National Research Council, a farm implement exhibit at the Experimental Farm at Ottawa, and several historical museums situated in National Parks. All are modest in scope.

The Royal Ontario Museum is the largest and best-known of the provincial museums. It specializes in the field of archaeology and carries on extensive work in research and publication. The New Brunswick Museum, though smaller, is noted for its exhibits designed for school use. Laval University, McGill University, the University of Western Ontario and the University of British Columbia all have sizable collections, and certain private exhibits, such as that of the Hudson's Bay Company at Winnipeg and that of the Bell Telephone Company at Montreal, attract many visitors.

The National Gallery at Ottawa has assembled a permanent collection of paintings and sculpture, prints and drawings representative of past and present styles from various countries. The Canadian section is most inclusive and is made known to the whole country through catalogues, photographs, colour reproductions, films, radio broadcasts and, to a limited extent, by loans. The extension work of the Gallery includes organization of exhibitions from collections abroad and the fostering of Canadian industrial art. There are also important collections in a number of the larger cities such as Toronto, Montreal and Vancouver.

Museum artist working on the backdrop of a display depicting the life of Canadian plains Indians. The setting-up of such displays involves careful selection and arrangement of items.



The Public Archives of Canada at Ottawa has accumulated valuable collections of public and private papers, newspapers, manuscripts, maps and pictures concerned with Canadian history. Several provincial governments also support archival collections, some in collaboration with universities located at the capital cities, as at Halifax and Toronto.

Libraries

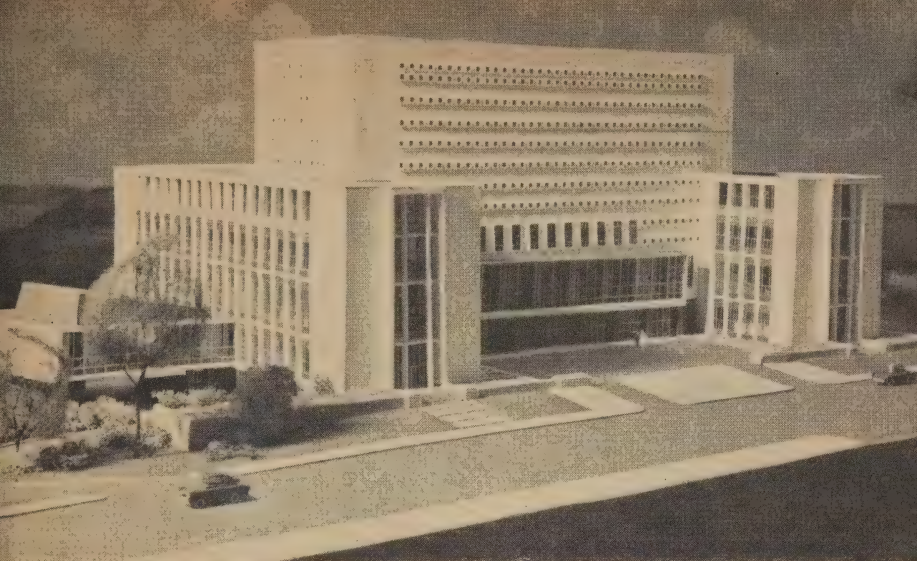
Public library service in Canada is conducted through large urban libraries and their branches in metropolitan areas, sometimes augmented by book-mobile service to outlying districts; small association libraries in villages and hamlets; regional service established on a county or wider basis; and mail service to remote areas. Through these mediums, 75 to 80 p.c. of the population have access to library service.



Mobile units are being added to many main libraries so that borrowers who had stopped using the libraries because of inconvenience of location are again scanning the shelves for their favourite writers or subjects.



Children's section of a city branch library.



The proposed design for the new National Library, as it will appear from Wellington Street, Ottawa, just west of the Supreme Court Building. The rear of the Library will overlook the Ottawa River and afford an unobstructed view of the Gatineau Hills.

A survey of libraries in 1953 covered a total of 759 establishments, of which 86 were in centres of over 10,000 population. These larger libraries accounted for 70 p.c. of the circulation of books in that year and regional service, which is in operation in most of the provinces, accounted for 13 p.c. Through the regional system of distribution, books are delivered regularly to deposit stations, thus giving the people of smaller communities access to a larger selection of books and also giving them the benefit of services made possible through larger budgets and trained librarians.

Statistics of Public Libraries, by Province, 1953

Province	Volumes	Circulation	Borrowers	Expenditures	Full- and Part-Time Staff
	No.	No.	No.	\$	No.
Newfoundland.....	179,362	278,999	25,385	122,353	27
Prince Edward Island....	85,995	304,008	13,500	47,389	34
Nova Scotia.....	204,511	984,480	80,042	224,015	86
New Brunswick.....	137,147	218,574	27,711	59,960	34
Quebec.....	1,101,286	1,830,825	93,440	697,739	266
Ontario.....	4,911,782	18,811,520	991,174	4,503,187	1,738
Manitoba.....	195,320	988,343	44,519	259,979	133
Saskatchewan.....	340,045	1,048,085	60,117	291,039	136
Alberta.....	505,427	2,022,310	119,493	467,740	246
British Columbia.....	752,925	4,292,684	217,393	1,138,063	428
Totals.....	8,413,800	30,779,828	1,672,774	7,811,464	3,128

Total expenditures of public libraries in 1953 amounted to \$7,811,464, volumes in stock numbered 8,413,800, circulation 30,779,828 and borrowers 1,672,774; thus expenditures on library service worked out to 93 cents per volume in stock and 25 cents per book borrowed. In centres of over 10,000

population reporting library expenditures, which accounted for 78 p.c. of the total amount spent, expenditures amounted to \$1.22 per capita of population.

Services other than book lending are also provided by public libraries. Many of them have stocks of films and records which may be borrowed by individuals or used for the instruction and entertainment of local audiences. Story hours and puppet shows for children are often conducted and art exhibitions arranged or sponsored. Young Canada Book Week is sponsored each year by the libraries in co-operation with the Canadian Library Association to promote interest in reading among Canadian children and to acquaint them with the services provided by libraries.

Special interest is at present being centred on the National Library of Canada. Plans for the building have been prepared and a site approved. Although the acquisition of book stock is limited until permanent quarters are available, the library has two major projects under way. The preparation of the National Union Catalogue, which will record all material in Canadian libraries, has proceeded to the point where it is now the key to 53 libraries. *Canadiana*, a comprehensive list of Canadian publications, is now being issued monthly.

The 1953 data for university and college libraries and federal and provincial government libraries have not yet been compiled; in the 1951 survey the former group reported 7,388,000 volumes in stock and the latter group 2,701,170 volumes.

Media of Mass Communication

The Canadian Press.—The Canadian Press, a co-operative organization owned and operated by Canada's daily newspapers, provides its 92 members with world and Canadian news and news photographs. It provides news to three-quarters of Canada's radio and television stations, and has a service of news and features available to weeklies. It is, in effect, a partnership through which each member newspaper provides to its fellow-members the news of its particular area. It is also a partnership through which the general news of the world is brought to Canada. Cost of editing and transmission is divided among members according to the populations of the cities in which they publish. Eleven dailies in three provinces receive news in French from CP.

CP editors in eight bureaux across the country handle news exchange, trimming copy to the needs of the regions served and where necessary supplementing the report by direct information. At Ottawa, for instance, CP maintains its own staff to report independently the news of Parliament. CP gets world news from Reuters, the British agency, and from the Associated Press, the United States co-operative, and these agencies depend on CP for their coverage of Canada.

In 1954, CP's news report was made available to 80 of its 92 members by transmission methods which make possible the automatic setting of type. Of these, 56 were setting type from teletypesetter tape; the others set their type from teletype copy by type-setting machines operated by hand.

CP maintains wirephoto transmitters in eight key Canadian centres and has a day-and-night wirephoto network linking 13 newspapers in eight Eastern Canada cities. Other cities are served by airmail.

The Canadian Parliamentary Press Gallery, located in the House of Commons, covers parliamentary and other government news. Seventy full-time correspondents represent Canadian, British and foreign daily newspapers and ten associates represent specialized papers and periodicals. The Press Gallery, though subject to the Speaker's jurisdiction, is responsible for its own internal organization.



Press Statistics.—Daily newspapers alone contribute 60 p.c. of the value of periodical publications, totalling \$220,000,000, produced in Canada each year, of which amount 71 p.c. is realized from advertising and 29 p.c. from sales. Printed and bound books are produced to the value of over \$28,600,000, with fiction, non-fiction, scientific and text books making up somewhat less than half that amount. Recorded imports of books and other printed matter greatly exceed recorded exports, the former amounting to over \$56,000,000 and the latter to about \$3,700,000 in 1952. Hence, it appears that the per capita expenditure of Canadians on books, pamphlets and periodicals is in the neighbourhood of \$18 a year.

About 95 daily newspapers, counting morning and evening editions separately, are published in Canada, with an aggregate reported circulation of more than 3,650,000—about 82 p.c. in English and the remainder in French, except for a few in Yiddish or Chinese. Ten of the papers enjoying circulations in excess of 100,000 account for more than half of the circulation. Well over 90 p.c. of all newspaper circulation is in urban centres.

Weekly or monthly publications include a considerable variety of foreign-language publications including Ukrainian, German, Yiddish, Polish, etc. Weekly newspapers serve more people in rural communities than do the dailies.

The combined circulation of Canadian magazines is over 11,200,000. In order of popularity, magazines classified as home, social and welfare come first, agriculture second, trade and industry third and religion fourth.

Purchases of books and other printed matter from the United States are significant, recorded imports having increased from \$28,585,000 in 1948 to \$63,084,000 in 1953. Imports from the United Kingdom have shown a

small annual increase in post-war years to about \$2,830,000 in 1953. In the same year, imports from France were valued at \$1,528,000.

Radio and Television.—Radio broadcasting and television in Canada are dealt with at pp. 280–285. The number of radio receiving sets made available in Canada through domestic production and imports has averaged about 650,000 a year since the end of World War II. From a high of 836,419 in 1947, Canadian domestic sales by distributors declined to 620,860 in 1953 and further declined to 487,200 in 1954.

The establishment of television service by the Canadian Broadcasting Corporation in 1952 greatly increased the demand for television receiving sets. Producers domestic sales mounted from 29,623 sets in 1950, to 39,185 in 1951, 137,236 in 1952, 366,498 in 1953 and approximately 624,000 in 1954.

Motion Pictures.—In 1953 there were 1,906 motion-picture theatres in Canada with a seating capacity of 978,000, 174 drive-in theatres, 669 community halls offering screenings, and 805 halls serviced by itinerant operators. On the average, each Canadian attended 17 motion-picture programs and paid \$8.30 in admissions. Most of the films shown were produced in the United States although a small but increasing number of films came from the United Kingdom and a few from France and other European countries. In 1953, Canadian motion-picture studios made over \$3,000,000 worth of film for industry and government and proved themselves capable of producing the highest quality of documentary and educational films. Canadian film production in 1953 was divided between private industry (32 firms) and nine federal and provincial government agencies. The former produced two theatrical features and 11 theatrical shorts in addition to 297 non-theatrical films of five minutes or longer, and 1,161 theatre trailers. Most of the non-theatrical films were in colour with sound and in English—109 of the sound films were in French. Canadian Government agencies produced 44 theatrical shorts and 184 non-theatrical films as well as eleven theatre trailers, 78 newsreel stories for theatres and television and 36 filmstrips. Of the non-theatrical films, 116 were produced primarily for television use. Canadian Film Awards, sponsored by the Canadian Association of Adult Education, the Canadian Film Institute and the Canada Foundation, provide a means of calling public attention to the nation's achievement in this young industry, recognizing Canadian creative effort and fostering higher standards of film production.

The National Film Board, whose production activities are included above in the references to government agencies, plays a significant role in non-theatrical film distribution through the co-operation of provincial and municipal agencies. During the year ended Mar. 31, 1954, the Board reached a Canadian non-theatrical audience of 14,000,000 at 200,900 showings. Distribution was facilitated through 391 libraries and depots, aided by 419 film councils representing 10,478 film-using groups and by 423 film circuits embracing 5,476 showing points. Through the co-operation of provincial Departments of Education and the universities, NFB films and filmstrips are distributed extensively to rural and urban schools. During the year, a total audience of 6,285,000 viewed 86,800 school showings.

Culture, a word often applied exclusively to development in the field of fine arts, is in reality the whole way of life of a people, as expressed in their homes, their work, their social relationships and their recreations, and as regulated by their laws and their customs. Though politically united, Canada's widespread group of people have not yet achieved social integration—the barriers of topography which tend to regionalize and isolate and, more particularly, the barriers of language and tradition created by the existence of two basically different racial stocks have not been completely overcome. Nevertheless, Canadians are a distinctive group of mankind who have moved a long way from the pioneer stage of their society concerned mainly with the conquest of environment, to a highly active and diversified society in which they enjoy a standard of existence second to none.





National Film Board

Alberta cattle ranch. The native prairie grass, which originally provided the basis for the extensive cattle-ranching industry, has been generally replaced in the live-stock areas by cultivated forage crops.

THE ECONOMY

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At the onset of the twentieth century, Canada was a nation immense in territory, meagre in population, its economy based on agriculture and the primary extractive industries. At mid-century, Canada is a country whose economy is broadly based on both manufacturing and primary industry, its home markets an ever-growing counterbalance to its dependence on export trade, its unpeopled spaces yielding to development and—often—settlement, as the population increases.

Canada has to-day achieved a position among the forefront of the nations, in part, by reason of its economic strength, founded on profusion of natural wealth of forest, field and stream, its advance in mechanization, emphasis on technological and scientific research, the high productivity of its labour, the enterprise of its business community and the intimate role of government with industry under a system of free enterprise.

The rate of Canada's advance to-day is a promise for its future—in a world where unparalleled power developments and the broadening of the frontiers of knowledge through scientific advance have opened new vistas for the human race.

Agriculture

AGRICULTURE is Canada's leading *primary* industry, one whose continued growth and importance is felt in every sector of the economy. In 1953, Canadian farmers realized a cash income of \$2,741,000,000, a bare 3 p.c. below 1952's all-time high. Moreover, though agriculture has declined as a field of employment relatively to other sectors of the economy, notably manufacturing (which, of course, includes processing of farm products)—and this decline has been pronounced in the past half century—farm output has actually increased. At the beginning of the century, 40 p.c. of those gainfully employed were engaged in agriculture; to-day less than 20 p.c. are so employed. Farm output has increased some two and one-half times over that attained at the century's opening. Land under cultivation, perhaps the best measure of the significance of agriculture in the economy, has tripled in the past fifty years, and is now nearing 100,000,000 acres. Agriculture is one of Canada's biggest businesses. Recent estimates put the value of farm lands and buildings, implements and machinery, and live stock, representing the capital invested in some two-thirds of a million individual farms, at near the 10,000,000,000 dollar mark.

Nonetheless, in the past half century agriculture has ceded its premier position to manufacturing as Canada has changed from a nation predominantly agricultural to a nation predominantly industrial. To-day, finished goods make up a greater proportion than ever before of Canada's production for sale at home and abroad, as the raw materials of this country's rich primary resources receive a constantly rising degree of processing and manufacture.

Canada's farms, in the past fifteen years especially, in keeping with the national trend, have undergone an industrial revolution of their own. Spurred by heavy domestic and foreign demand for Canadian foodstuffs and generally improved price levels, Canadian farmers embarked upon a program of mechanization more sweeping than anything before in their history. From 1947 to 1950 alone, for example, they spent an average \$304,000,000 a year on new equipment in contrast to an annual average of \$94,000,000 between 1926 and 1929, and \$59,000,000 between 1936 and 1939. In the post-war period, to 1950, five out of every six dollars of capital investment by the farmer were spent on the purchase of machinery and equipment.

Rapidity and extent of Canada's conversion to large-scale mechanized operations may be gauged from the figures for selected farm machinery as shown by the Censuses of 1941 and 1951. In 1941 there were nearly 160,000 tractors on Canadian farms; in 1951, this figure had risen sharply to just under 400,000. Grain combines for harvesting rose from 19,000 in 1941 to 90,000 ten years later. The farmers of Canada have also become highly "mobile": the day of the horse-drawn wagon and sleigh, the cutter and the buggy is well-nigh over. Their place, and that of millions of horses, has been taken by some 330,000 automobiles, 196,000 motor trucks—and by the tractor.

The scientific study of farming has long been practised in Canada, but the problems of present-day farming have entailed a higher degree of concentration, in a scientific sense, than ever before. In part, farm mechanization sprang from the application, not only of modern technological and engineering



Wheat is the major farm enterprise in the greater part of the open plains area of southern Saskatchewan.

Production of certified seed potatoes and high-grade table stock is one of the most important phases of New Brunswick agriculture.



techniques to the broad requirements of domestic agriculture, but from the new concepts of dry-land farming especially. In this, the agricultural scientist has played a significant role. Improved methods of tillage in Canada's western plains were demanded in answer to soil and climatic conditions, and new equipment or adaptations of earlier types were developed to meet these conditions.

The prairies were quickly settled. The lure was land and the urgent European demand for Canada's western spring wheat—to-day among the finest in the world. But the farming methods of the day, adopted from the experience of settlers in the Great Plains of the United States mid-west proved unsuited to Canadian conditions, and during the drought years of the 1930's, Western Canada gave promise of becoming a "dust bowl" of frightening potential proportions. Too much submarginal land—properly, grazing land—had been brought under the plough and too little heed given to the low incidence of rainfall over much of the prairie wheatland—insufficient in most years to guard against drought.

The central and southern prairies are still heavily grain farming—mainly wheat farming. Under the Prairie Farm Rehabilitation Administration, set up in 1935, much submarginal land has been returned to pasture (over 1,600,000 acres to 1955), and extensive irrigation projects have been developed. Coupled with the application of better dry-land cultivation techniques, these practices have redeemed huge areas of the country to progressive use which takes realistic account of the chronic lack of sufficient rainfall for grain-growing in certain areas. Tillage methods adopted include retention of the trash cover—roughly broken soil mixed with stubble—on summerfallowed land, which aids in retaining moisture and presents a less-pulverized surface to wind erosion, as well as strip-farming—summerfallow interspersed in strips with the regular cereal crop.

Study of soil structure, crop rotation, irrigation, and the tillage practices mentioned have all helped to broaden production horizons in areas favourable to grain growing, have helped diversify the crops that may be grown in a given area, and have enabled entirely new crops to be introduced.

Modern farming methods and modern scientific agricultural knowledge have been brought to bear upon the problems of other Canadian regions where agriculture is practised, or where changes in the farming pattern are sought. In Eastern Canada, native specialties have been developed for a world market and the potatoes of New Brunswick and Prince Edward Island, the apples of Nova Scotia, the cheese, honey, maple syrup and fruit of Ontario and Quebec have achieved high repute.

Though live-stock production is common to nearly every region in Canada, the swing to mixed farming in the West, especially in marginal areas, is adding to the traditional cattle production from prairie ranches, and diversifying the range of production. Eastern Canada has long been noted for the excellence of its cattle, hogs and poultry, and there the climate and soils are specially suited to diversified farming.

But the frontiers of Canadian agriculture are still being pushed outward. Development of hardier cereal strains has meant extension northward, and recent progress in surveying and assessing hitherto little-known outlying areas has extended the range of agriculture generally. The Alpine meadows



The value of southern Ontario's 1954 grape crop is estimated at \$4,000,000. More than 22,000 acres in the Niagara district are planted in a wide variety of grapes.

Grape crusher and stemmer at a St. Catharines winery handles 40 tons an hour.



of the Western Cordillera, the remote northern areas of the Peace River country, the Great and Lesser Clay Belts, many areas where unfavourable soil is found or a short growing season prevails, are now contributing to total farm production. For the never-ending march of scientific study goes on: new varieties and strains, new methods of culture and care, new ways of preserving and marketing are all adding volume, value and variety to Canadian farm production.

Canadian agriculture, as it developed in the early years of the twentieth century, applied the methods of co-operative buying and selling, so that to-day, in both Eastern and Western Canada, co-operative creameries, cheese factories, fruit canning and similar establishments are as characteristic of

Canadian agriculture generally as the famed prairie Wheat Pools whose elevators, side by side with those of the regular commercial companies, stand sentinel-wise on the often bleak horizons of the western flatlands.

During and since World War II, wheat has been marketed under government supervision. Delivery quotas help distribute storage space more equitably and allow wider producer participation in marketing opportunities. First, the United Kingdom and later, International Wheat Agreements have aided in creating more stable export markets for wheat. Because of world conditions to-day, moreover, the Canadian Wheat Board, administrator of Canada's wheat-marketing legislation, is still essentially the agent of the grain farmer, though the co-operative and other agencies of marketing are integrated in the general scheme.

With the advent of widespread farm mechanization, with improved farm income in recent years, and the development of measures, such as farm support prices, to enable greater stability to be attained in an occupation noted for its vulnerability, not only in respect to crop growing but to export market fluctuations, the farmer in Canada to-day can enjoy a higher standard of living than ever before.

Mechanization has caused a notable shift in farm population; the lavish manpower that was a feature of Canadian farms a generation ago has been proportionately reduced. One result of the decrease in farm labour demand has been the migration of many members of farm families to the cities and to urban occupations, except perhaps in families which have taken advantage of mechanized assistance to increase their farm acreage. This has tended to offset the volume of migration to some extent.

The isolation of the Canadian farmer has also been lessened, as his ownership of automobile and radio has become more common. The growth, moreover, of social and cultural movements and educational opportunities, such as the women's institutes, the work of the extension departments of provincial universities and colleges and the adoption of the consolidated school district, have all meant, in effect, a widening of cultural outlook and an enrichment of social life and welfare.

Services Available to the Farmer.—The Federal Government, as well as the provincial governments, have long recognized the complexity of production and marketing problems facing the farmer and each government has established a department to administer a multitude of national and local services which assist the farmer in almost every field of his endeavour. These departments, along with their organization of scientists, technicians and fieldmen, work in close co-operation with each other. Representatives of the provincial governments meet annually with federal officials and delegates of organized farmers to consider broad plans for guiding agricultural production during the following season. These conferences afford opportunities for co-operative attacks on problems that confront Canadian farmers.

The work of the Federal Department of Agriculture may be divided into five main functions: research and experimentation; production and protection of crops and animals; marketing, including grading and inspection; price stability in marketing; and reclamation and development.



Inspectors of the Board of Grain Commissioners grading samples of western Canadian grain at Winnipeg.

Research and Experimentation.—Research and experimentation covers almost every kind of technical problem met by farmers in the production and marketing of their commodities as well as those problems involved in the processing, curing, storing and distribution of farm products.

To carry on this vast and varied work, the Federal Department of Agriculture has a chain of experimental farms and research laboratories located across the country. They are situated where they can best serve the needs of a wide variety of farming enterprises and of specialized areas of soil and climate. The work is co-ordinated through the headquarters of the Experimental Farms Service and the Science Service at Ottawa, where research is constantly under way. Among the best known results of the Department's research are the origination of many new varieties of field crops and horticultural plants, methods of controlling pests and diseases, and soil fertility findings which have improved production and lowered costs. Discoveries in the field of animal diseases include the development of vaccines and other controls which have contributed materially to a high level of health in Canada's live stock and poultry.

An important and often misunderstood aspect of this research is that it must be continuous, for new problems continually arise; indeed, the solution of one problem often leads to others. A typical example is the work



In the Central Experimental Farm growth chamber, wheat is fully headed six weeks after planting—quality and disease resistance of new varieties may be checked through five generations in the time of one outdoor growing season.

of the agricultural scientist in protecting Canada's wheat from stem rust. First reported in Canada in 1891, stem rust had by 1916 become a limiting factor in wheat production, destroying 100,000,000 bu. in that year. The average annual loss from 1916 to 1936, when stem rust-resistant varieties were introduced, was about 35,000,000 bu. Although chemical methods of control have not been overlooked, the breeding of rust-resistant varieties of wheat remains the only practical way of controlling the disease. Unfortunately, new 'races' of stem rust develop and the variety that is immune to known races may not be resistant to a new arrival. The year 1954 was a particularly bad one for rust of *race 15b*, but fortunately a new wheat variety (*Selkirk*) which plant breeders have been developing against this very eventuality, was available in considerable quantity for sowing in the spring. The use of this variety, which stood up well to the rust, undoubtedly prevented greater rust-damage to the wheat crop. An even greater quantity of this variety will be available for sowing in 1955. But breeders remain on the alert developing still other varieties, for another race of stem rust may appear against which *Selkirk* is not resistant.

Production and Protection of Crops and Animals.—The Health of Animals Division and the Plant Protection Division are concerned with protection against importation of disease and pests and carry on extensive testing and control work within the country to keep down the spread of disease. Control of tuberculosis and many other contagious diseases in animals is typical of this work. Over half of the cattle in Canada are now in accredited areas, that is, in areas in which not more than one-half of one per cent of the cattle were found to be affected with tuberculosis at the latest TB test. Slightly over one-half of the remaining cattle are in tested areas which have not yet reached accredited status or areas where the accreditation has expired. When the remaining cattle have been tested and the reactors moved, a second test will probably show that the entire country can be classed as an Accredited Area. All meat animals are subject to veterinary inspection both

before and after slaughter and regulations govern the methods used and sanitary conditions of meat and other processing establishments.

The promotion of the production of certified and registered seed and purebred live stock is also of great importance. Certification is maintained over registration and distribution. Standards are maintained which are widely accepted in other countries. Another type of activity is the enforcement of laws governing the sale of feeds, fertilizers, pesticides and many other products purchased by farmers.

Marketing, including Grading and Inspection.—Marketing activities, in general, consist of the establishment and enforcement of national standards for animal, dairy and poultry products, for canned foods, and for many fruits and vegetables. These standards are enforced by grading or inspection



Key organization in the training of future farmers is the Canadian Council on Boys' and Girls' Club Work. More than 65,000 farm young people and 8,000 local leaders participate in active programs directed towards the improvement of agricultural and home-making practices and the general enrichment of rural life.



Top: 4-H Club members being instructed in the methods of taking soil samples for testing.

Bottom: Gathering of Club members at a Maritime Winter Fair.





Hays, Alta., a village established as a result of the coming of irrigation. The Federal Government through PFRA has moved settlers from dried-out areas to the Hays district where there is sufficient irrigated land to settle over 300 farmers.

of commodities entering interprovincial and export trade. By arrangement and collaboration with provincial authorities, many commodities produced within provincial boundaries are inspected and graded. (See p. 222 for information on co-operatives.)

Price Stability.—Canada, like most agricultural countries, has measures designed to give price stability in marketing. Under the Agricultural Prices Support Act, 1944, the Federal Government may stabilize the price of any agricultural product (except wheat, which is handled separately) by outright purchase or by underwriting the market through guarantees or deficiency payments. This Act has been used to good purpose to stabilize the price of products such as butter and eggs which normally are subject to somewhat violent seasonal price fluctuations. It is also valuable in handling surpluses of a temporary nature. Farmers who market their products co-operatively can be assisted under the Agricultural Products Co-operative Marketing Act. Since 1939 the Act has aided farmers in pooling returns from the sale of their products by guaranteeing initial payments.

Another measure of considerable importance in price stabilization is the Agricultural Products Marketing Act, 1949. A number of provincial governments have established boards to control or regulate agricultural products produced and marketed within the province concerned. This Act enables such provincial marketing legislation, or any particular part of it, to be applied in the same way to the marketing of agricultural products, outside that province and in export trade. The Prairie Farm Assistance Act, 1939, gives financial aid to Prairie Province farmers who suffer partial or total crop failure during years of drought.

Reclamation and Development.—For many years the Federal Government has provided financial assistance in connection with land and water resources. The work is done under the Prairie Farm Rehabilitation Act, 1935. The administration of the Act is broad enough in its scope to meet the problems of rehabilitation, and flexible enough to enable formulation of joint policies with each provincial government, the rural municipalities or the farmer himself. The activities are classified as either intermediate or long-term. The intermediate program includes projects concerned with soil drifting on good lands; water developments for small farms; development of irrigation for feed production on a watershed basis; and community pastures. Water developments for small farms include dugouts, stock-watering and individual irrigation, the engineering and financial assistance for which extends to about

one-third of the cost. Long-term projects involve many years of study. Engineering surveys are only a part, and it is necessary to have surveys of soil, economical water supply, climate and all those matters that affect land and people. Such projects include the St. Mary River Dam, completed in 1951, a key structure to bring water, when and where needed, to about 500,000 acres of fertile land in southern Alberta. Mention should be made of the marshlands rehabilitation in Nova Scotia and New Brunswick, where the Federal Government, along with the two provincial governments, has undertaken on a joint basis to preserve, and in some areas to restore, the productivity of rich agricultural lands which are threatened by the sea in the Bay of Fundy. Some work has also been done in Prince Edward Island.

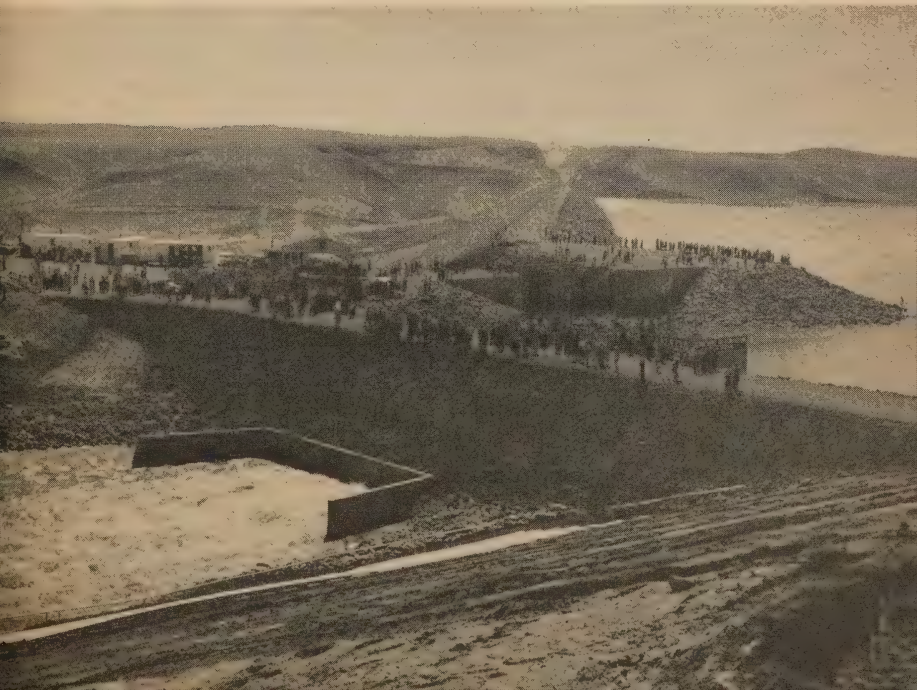
Farm Credit.—The Federal Government has made provision for the extension of credit to farmers under two Acts. The Canadian Farm Loan Act gives long-term and short-term farm mortgage credit and the Farm Improvement Loans Act provides intermediate-term and short-term credit to enable farmers to equip, improve and develop their farms.

• Statistics of Agriculture

Income of Farm Operators

The net income of Canadian farm operators (excluding those in Newfoundland) from farming operations in 1953 was estimated at \$1,656,564,000, a figure 13 p.c. lower than the estimate for 1952 and 23 p.c. lower than the

Travers Dam on the Little Bow River just north of Lethbridge, Alta., officially opened July 13, 1954, is another major milestone in the federal-provincial plan to bring 3,000,000 parched but fertile acres in southern Alberta "under the ditch". Eventually, man-stored water from 14 large projects and hundreds of small schemes will awaken these long-dormant lands to a bright agricultural future.





Hogs being moved down to the loading pens at an Alberta stockyard.

record high estimated for 1951. The decline in 1953 was the result of a drop of 8 p.c. in gross farm income which more than offset a decline of 3 p.c. in farm operating expenses and depreciation charges. Lower returns from the sale of farm products and a very substantial drop in the value of year-end changes in farm-held stocks of grains and live stock, as well as a lower value placed on home-grown produce consumed on the farm, all contributed to the 8-p.c. decline in gross farm income.

Net Income of Farm Operators from Farming Operations, 1951-53

Item	1951	1952	1953
	\$'000	\$'000	\$'000
1. Cash income.....	2,816,461	2,826,616	2,741,252
2. Income in kind.....	408,613	413,496	401,126
3. Value of changes in inventory.....	353,379	237,742	50,885
4. Gross Income (Items 1 + 2 + 3).....	3,578,453	3,477,854	3,193,263
5. Operating expenses and depreciation charges...	1,434,282	1,582,206	1,538,271
6. Net income, excluding supplementary payments (Item 4—5).....	2,144,171	1,895,648	1,654,992
7. Supplementary payments.....	10,356	5,131	1,572
8. Net Income of Farm Operators from Farming Operations.....	2,154,527	1,900,779	1,656,564

Cash income from the sale of farm products is, of course, the most important item of net farm income and represents receipts from all products sold off farms during the year together with participation payments on previous years' grain crops. The value of cash income in 1953 was 3 p.c. lower than the all-time high established in 1952. Higher income from the sale of wheat, dairy products, eggs, corn, sugar beets, hay and wool was more than offset by lower returns from other products.

Cash Income from the Sale of Farm Products, by Province, 1951-53

Province	1951	P.C. of Total	1952	P.C. of Total	1953	P.C. of Total
	\$'000		\$'000		\$'000	
Prince Edward Island...	26,640	1.0	31,627	1.1	22,435	0.8
Nova Scotia.....	44,395	1.6	39,757	1.4	40,566	1.5
New Brunswick.....	50,335	1.8	52,952	1.9	46,051	1.7
Quebec.....	437,006	15.5	412,583	14.6	387,075	14.1
Ontario.....	786,805	27.9	718,965	25.4	692,657	25.3
Manitoba.....	265,711	9.4	249,843	8.9	214,187	7.8
Saskatchewan.....	636,189	22.6	710,141	25.1	743,352	27.1
Alberta.....	459,949	16.3	506,529	17.9	491,529	17.9
British Columbia.....	109,431	3.9	104,219	3.7	103,400	3.8
Totals.....	2,816,461	100.0	2,826,616	100.0	2,741,252	100.0

Cash Income from the Sale of Farm Products, by Source, 1953

Source	Cash Income	Source	Cash Income
	\$'000		\$'000
Grains, seeds and hay.....	1,063,225	Miscellaneous farm products....	49,789
Vegetables and other field crops...	170,384	Forest products sold off farms...	83,637
Live stock.....	775,108	Fur farming.....	8,844
Dairy products.....	413,127		
Fruits.....	41,807		
Eggs, wool, honey and maple products.....	135,331	Cash Income from Sale of Farm Products.....	2,741,252

Young cabbages receiving careful attention in a market garden of the Niagara district.



As in 1952, a heavy year-end farm carryover of wheat enabled western farmers to market exceptionally large quantities during the first seven months of 1953. Although deliveries during the latter part of the year were below the 1952 level, the total for the year was well above that for 1952. Initial prices for specific grades were unchanged from 1952 but the higher grading of the grain delivered during the spring of 1953 resulted in a higher weighted average initial price. Total wheat participation payments in 1953 at \$125,353,000 were well below those of 1952. Final wheat payments, usually made before the end of the calendar year, were delayed until the closing of the 1952-53 pool on Jan. 30, 1954. Although prices of oats and barley were relatively unchanged in 1953, marketings were down.

The greatest reduction in receipts from the sale of field crops in 1953 was for potatoes. Potato prices dropped substantially from the unusually high levels of the previous year and income from this source was down by more than 50 p.c. A smaller crop and reduced prices resulted in lower returns from tobacco.

Lower prices for all live stock, except hogs, and smaller marketings of hogs and sheep combined to reduce income from the sales of live stock by about 6 p.c. from the 1952 level. A substantial increase in cattle marketings during 1953 reflected the build-up of the cattle population which started in 1950 and continued during the period of restricted export movement arising out of the outbreak of foot-and-mouth disease in Saskatchewan early in 1952. Support for cattle prices commenced in April 1952 and continued until the lifting of United States import restrictions on Mar. 1, 1953. Prices of good steers at Toronto fluctuated around the support price of \$23 per 100 lb. during the first two months of 1953 and then declined by approximately \$3 to a level which was maintained fairly consistently during the remainder of the year.

Early in 1953 hog marketings began to decline from the 1952 level and as the year progressed the difference between the two periods became more apparent. This decline was recorded in all provinces except Alberta. The weighted average price of all hogs sold in Canada in 1953 was the third highest on record, being exceeded only by prices established in 1949 and 1951. The favourable price position in 1953 is largely attributable to the strong market for hogs that prevailed in the United States.

Income from the sale of poultry and eggs was about 5 p.c. higher than in 1952, a decline in income from poultry meat being more than offset by increased returns from the sale of eggs. Total marketings of eggs were relatively unchanged from 1952 but average prices were substantially higher. Income from the sale of dairy products was about 4 p.c. above that of 1952—prices were lower but production increased as the result of a continued rise in the number of milk cows during the year.

The estimated value of year-end changes of farm-held grains and live stock amounted to \$50,885,000 as compared with \$237,742,000 for 1952 and the record high of \$353,949,000 for 1942. The grain inventory in 1953 was valued at \$26,553,000 as against \$127,963,000 for 1952 and the live-stock inventory at \$24,332,000 compared with \$109,779,000.

Total farm operating expenses in 1953 were estimated to be 3 p.c. below the peak reached in 1952 but were still 7 p.c. above the 1951 estimate. A substantial reduction in farmers' outlays for such items as rent, labour and feed more than offset increased expenditures for some of the more important items such as taxes, interest on indebtedness, fertilizers, repairs to machinery and buildings, and the operation of tractors, trucks and automobiles.

Field Crops

After an unprecedented three-year period of unusually high and, in some areas, record field-crop production, Canadian farmers in 1954 experienced what was in some respects one of the most difficult and disappointing seasons in many years. A late spring delayed seeding in many sections of the country, and the lateness of the crop was further aggravated by excessive rainfall, particularly in the Prairie Provinces, eastern Ontario and Quebec. Plant growth, however, was generally rapid and rank as the result of abundant moisture, and crop progress at the first of August pointed to the possibility of western grain crops being substantially above average for the fourth consecutive season. However, the rapid development of the most severe rust epidemic in Western Canada's history, together with serious sawfly infestation, widespread rain, wind and hail damage, and September frosts and snow caused serious crop deterioration. As a result, average per acre yields of all crops except tame hay, dry beans and rapeseed were below those of 1953. The sharpest declines were shown by spring wheat and all rye, each less than half the size of the 1953 crop; barley was down by one-third and oats and potatoes were each down by one-quarter. On the other hand, production of several crops, including flaxseed, mixed grains, grain corn, dry beans, soybeans, sunflower seed, rapeseed, sugar beets and tame hay, was above 1953 levels, largely as the result of increased acreages.

The heaviest damage was suffered by Prairie grain farmers but, for many, the effects were offset to some extent by reserve stocks of grain which

Prairie wheat farmer—owner, manager and worker.



had accumulated from the three preceding years. Despite abnormally heavy marketings during those years Canadian farm stocks of wheat, barley and rye at July 31, 1954, were the highest on record for the end of a crop year, while those of oats and flaxseed had been exceeded only once before. Although marketings and exports of Canadian grain during the 1953-54 crop year did not continue the record-breaking levels of the preceding two crop years, they were well above average in total volume. Marketings of the five major grains in Western Canada in 1953-54 totalled 610,100,000 bu. compared with 844,100,000 bu. in 1952-53 and the ten-year (1943-44-1952-53) average of 557,900,000 bu. Combined exports of the same grains (including wheat flour, rye flour, rolled oats and oatmeal in grain equivalent) amounted to 437,900,000 bu. as against 582,800,000 bu. in 1952-53 and the ten-year average of 381,800,000 bu.

The marketing of unprecedented quantities of western Canadian grain in recent years has necessitated a continuous review by the Canadian Wheat Board of methods considered most suitable to ensure adequate supplies of the various grains to meet both domestic and export commitments and, at the same time, ensure that producers have the opportunity of delivering grain in as equitable a manner as possible. To meet this objective the Board has continued its policy of delivery quotas. In 1953-54 initial quotas of three bushels per specified acre were established for individual producers on the basis of their specified acreage for wheat (other than Durums), oats, barley and rye. ("Specified acreage" means the producer's acreage seeded to wheat, other than Durums, oats, barley and rye, plus the producer's summerfallow acreage.) The initial quota was adjusted as conditions permitted, with all delivery points being on a seven-bushel quota by July 9, 1954. Durum wheat and flaxseed remained on an open quota basis throughout the crop year.

The delivery quota policy at the beginning of the 1954-55 crop year was designed, through the establishment of special quotas, to favour the delivery of oats and barley in quantities sufficient to meet the Board's requirements. As space became available initial delivery quotas permitting deliveries of wheat, oats, barley and rye up to limited amounts regardless of the producer's acreage were established and by Oct. 15 were in effect at all points. Subsequently, provision was made for establishing a general delivery quota on the basis of the producer's specified acreage as in 1953-54. By Dec. 7, 1954, out of 2,079 shipping points in the Western Division, the Board had been able to place 1,404 on a general quota of two bushels per specified acre. An additional 104 points were on a four-bushel quota while the remainder, 571 points, were still on the initial quota basis.

Although both yield and quality of the 1954 grain crop were generally low, combined stocks of the five major grains in all positions at July 31, 1954, were estimated at a record 876,200,000 bu., more than two and one-half times as great as the 1944-53 average of 325,000,000 bu. Most of these stocks of old-crop grain were of high quality, thus ensuring adequate supplies for both domestic use and export. Total supplies of the major grains for the 1954-55 crop year, consisting of the July 31, 1954, carryover and the 1954 crop, were estimated in millions of bushels as follows (1953-54 figures in parentheses): wheat, 881.6 (983.6); oats, 432.6 (551.4); barley, 321.4 (373.7); rye, 33.5 (45.0); and flaxseed, 13.8 (13.9).



Sheaves of oats swing from the binder as a farmer and his son harvest the crop on their land near Meaford, Ont.

Estimated Area, Yield and Production of Principal Field Crops, 1953 and 1954

Crop	Area		Yield per Acre		Production	
	1953	1954	1953	1954 ^a	1953	1954 ^a
	acres	acres	bu.	bu.	bu.	bu.
All wheat.....	25,512,600	24,266,800	24·1	12·3	613,962,000	298,909,000
<i>Winter wheat</i>	732,000	710,000	35·8	34·0	26,206,000	24,140,000
<i>Spring wheat</i>	24,780,600	23,556,800	23·7	11·7	587,756,000	274,769,000
Oats for grain.....	9,830,000	10,160,600	41·4	30·2	406,960,000	306,793,000
Barley.....	8,911,100	7,855,900	29·4	22·3	262,065,000	175,509,000
All rye.....	1,494,200	850,500	19·3	16·7	28,775,000	14,176,000
<i>Fall rye</i>	1,031,200	672,500	20·6	17·7	21,225,000	11,922,000
<i>Spring rye</i>	463,000	178,000	16·3	12·7	7,550,000	2,254,000
Mixed grains.....	1,445,400	1,632,600	43·0	37·6	62,188,000	61,454,000
Corn for grain.....	362,000	418,000	57·6	53·4	20,854,000	22,339,000
Buckwheat.....	138,900	121,500	23·1	17·8	3,210,000	2,168,000
Peas, dry.....	60,400	49,800	20·0	17·6	1,210,000	880,000
Beans, dry.....	68,500	72,500	17·8	14·2	1,219,500	1,027,000
Potatoes.....	321,100	296,200	208·7	169·9	67,002,000	50,326,000
Flaxseed.....	972,000	1,206,000	10·2	9·3	9,912,000	11,238,000
Soybeans.....	216,000	254,000	20·4	19·5	4,406,000	4,953,000
Sunflower seed.....	4,500	20,000	lb.	lb.	lb.	lb.
Rapeseed.....	29,500	46,000	880	877	3,960,000	13,000,000
Tame hay.....	10,702,000	10,802,000	tons	tons	25,875,000	40,500,000
Fodder corn.....	364,700	355,500	1·84	1·81	19,650,000	19,549,000
Field roots.....	43,200	42,800	9·77	8·38	3,564,800	2,978,100
Sugar beets.....	81,952	89,990	11·04	10·28	477,000	440,000
			10·99	10·10	900,339	1,003,853

¹ Includes relatively small quantities of winter wheat in all provinces except Ontario.

Marketing of Wheat.—The extremely tight commercial grain storage position during 1953-54 was reflected in a substantial decline in farmers' wheat deliveries. Despite the sharp drop from 535,900,000 bu. in 1952-53 to 398,700,000 bu. in 1953-54, deliveries in the latter year were still well above the level of average marketings of 347,000,000 bu. for the 1943-44—1952-53 period.

Exports of wheat and flour in terms of wheat during 1953-54 which amounted to 255,100,000 bu. as against 385,500,000 bu. in the previous year and the ten-year average (1943-44—1952-53) of 290,400,000 bu. were still well above the pre-war (1935-36—1939-40) average of 183,000,000 bu. The drop in domestic disappearance in 1953-54 to a level of 145,800,000 bu. from 150,000,000 bu. in 1952-53 and a ten-year average of 156,000,000 bu. is attributable to reductions in the main categories of use—animal feed, seed and human consumption.

The 1953-54 crop year coincided with the first year of the new three-year International Wheat Agreement, under which Canada had a guaranteed export quota of 150,800,000 bu. for 1953-54. According to latest reports available on the year's transactions, Canadian sales under the Agreement totalled 90,900,000 bu. All but 14 of the 43 importing countries included in the pact purchased wheat or flour or both from Canada, the larger purchasers being Germany, 17,000,000 bu.; Belgium, 13,000,000; and Japan, 12,000,000. However, the major part of Canada's wheat trade during 1953-54 was in Class II wheat (i.e., wheat exported outside the provisions of the International Wheat Agreement). The principal customer was the United Kingdom which received exports of some 65,800,000 bu. of Canadian wheat and flour in terms of wheat. Combined exports during 1953-54 of 255,100,000 bu. of wheat and flour went to 83 countries, territories and colonies.

During 1953-54 prices for domestic wheat, with the exception of Durum, were the same as those for wheat sold under the International Wheat Agreement. Between Aug. 1 and Sept. 24, 1953, Durums for the domestic market were sold at the same price as for I.W.A., but on and after Sept. 25 an additional 10 cents per bu. was charged. During the first few weeks of the 1953-54 crop year Class II prices, excepting Durums, were fractionally above the I.W.A. and domestic sales levels but coincided for the remainder of the crop year. Throughout the season, Class II Durums sold at a substantial margin over Durums sold under I.W.A. or for domestic use. No. 1 Northern, basis Fort William-Port Arthur for I.W.A. and domestic sales averaged \$2.01 $\frac{1}{4}$ per bu. during the month of August 1953, but had declined to an average of \$1.70 $\frac{3}{4}$ by July 1954, the last month of the crop year.

The marketing of western Canadian wheat during the 1953-54 crop year was again conducted by the Canadian Wheat Board on a one-year pool basis with the initial payment set at \$1.40 per bu. basis No. 1 Northern in store Fort William-Port Arthur or Vancouver. The initial payment for No. 1 C.W. Amber Durum was established at \$1.50 per bu. as an incentive for farmers to expand production of this type for which a strong demand exists. An interim payment of 10 cents per bu. on all grades (amounting in total to some \$38,600,000) was announced on Nov. 6, 1954. Final payments to producers for wheat delivered to the 1953-54 pool will depend on the average prices at which the Board has been able to sell the various grades,

as well as on the costs incurred by the Board in carrying abnormally heavy stocks over an extended period of time.

Pricing arrangements for the 1954-55 crop year are similar to those in effect for 1953-54. The initial payment for No. 1 Northern is again \$1.40 per bu., with No. 1 C.W. Amber Durum at \$1.50 per bu. Durums sold domestically are priced 10 cents per bu. higher than for I.W.A. sales, while Class II Durums continue to hold a substantial margin over the domestic and I.W.A. quotations for Durums. Apart from Durums, current quotations for I.W.A., domestic and Class II sales coincide.

Production, Imports and Exports of Wheat, Years Ended July 31, 1946-55

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bu. to the barrel of 196 lb. of flour.

Year ended July 31—	Production (Previous Year's Crop)	Imports of Wheat and Flour	Exports of Wheat and Flour
	'000 bu.	bu.	bu.
1946.....	318,512	74,765	343,185,751
1947.....	413,725	15,584	239,420,837
1948.....	341,758	824,677	194,982,342
1949.....	386,345	288,881	232,329,335
1950.....	371,406	4,059	225,136,785
1951.....	461,664	11,884	240,960,846
1952.....	552,657	17,560	355,825,252
1953.....	687,922	17,066	385,526,541
1954.....	613,962	456,807	255,081,406
1955.....	298,909 ^p	..	..

Storage facilities for grain and oil at a Saskatchewan railway siding. At seeding and at harvest the oil agent is busiest supplying farmers with fuel to power their mechanized equipment.



The Canadian guaranteed export quantity under the second year (1954-55) of the current International Wheat Agreement is 150,900,000 bu. The maximum and minimum prices, \$2.05 and \$1.55, respectively, in U.S. funds remain unchanged from 1953-54.

Marketing of Other Grains.—Aside from wheat, the largest volumes of grain marketed are barley and oats. In Western Canada, these two grains are currently marketed through compulsory crop-year pools administered by the Canadian Wheat Board. As in the case of wheat, producers receive a fixed initial payment on a grade basis for oats and barley at the time of delivery and additional payments depending on the prices ultimately realized by the Board on its sales of the various grades. Other grains, of which the most important are rye and flaxseed, are sold on the open market in Western Canada.

In Eastern Canada where grains are not as extensively grown for sale as in the Prairie Provinces, facilities for grain marketing are less highly organized. Nevertheless, there are important cash markets, particularly in southwestern Ontario, for such crops as winter wheat, malting barley, soybeans, dry beans and shelled corn. Producer organizations exist for many of these and other "cash" crops and most of them take an active interest in storage and marketing arrangements.

From the standpoint of importance in terms of volume, however, marketing of western Canadian oats and barley is second only to that of wheat. Initial payments for both oats and barley in 1953-54 were the same as in 1952-53, i.e., on the basis of 65 cents per bu. for No. 2 C.W. oats and 96 cents per bu. for No. 3 C.W. Six-Row barley, in store Fort William-Port Arthur. No interim payments were made on either grain during the crop year but final payments for both were announced in October 1954.

Final payments on the 101,193,954 bu. of barley delivered to the 1953-54 pool averaged 9.71747 cents per bu. after deduction of payment expenses and the one per cent Prairie Farm Assistance Act levy. Total prices (basis in store Fort William-Port Arthur) realized by producers for representative grades, after deducting carrying charges in country and terminal elevators, Board administrative costs, etc., but before deducting the one per cent PFAA levy, were \$1.05985 per bu. for No. 3 C.W. Six-Row barley and \$0.95009 per bu. for No. 1 Feed barley. Final payments on the 89,725,291 bu. of oats delivered to the 1952-53 pool averaged 6.2759 cents per bu. Total prices realized by producers for representative grades, on the same basis as for barley, were \$0.70517 for No. 2 C.W. and \$0.66175 for No. 1 Feed oats.

Some 12,200,000 bu. of rye and 7,400,000 bu. of flaxseed were delivered by farmers in Western Canada in 1953-54, both these grains being sold on the open market.

Live Stock

The number of cattle on farms at June 1, 1954, was estimated at 9,954,000 head, about 2 p.c. more than at the same date of 1953. Milk cows increased nearly 3 p.c. as compared with a 6-p.c. increase in 1953 over 1952. Hogs on farms at June 1, 1954, estimated at 5,141,000 were 16 p.c.

above the total of 4,447,000 at June 1, 1953; in Western Canada the increase was 19 p.c. and in Eastern Canada 13 p.c. Sheep and lambs at 1,804,400 were about 5 p.c. higher than in 1953. Horses decreased 9 p.c. in the same comparison to 993,300—they were below the million mark for the first time since before 1881.

Live Stock on Farms, by Province, as at June 1, 1954, with Totals for 1953

Province	Milk Cows	Other Cattle	Hogs	Sheep and Lambs	Horses
	No.	No.	No.	No.	No.
Prince Edward Island	46,500	73,500	70,000	39,400	17,600
Nova Scotia.....	90,000	114,000	39,000	99,000	21,700
New Brunswick.....	96,500	98,500	67,000	66,000	26,000
Quebec.....	1,078,000	912,000	1,051,000	363,000	204,000
Ontario.....	1,045,000	1,966,000	1,560,000	410,000	176,000
Manitoba.....	198,000	462,000	360,000	60,000	91,000
Saskatchewan.....	276,000	1,111,000	539,000	156,000	229,000
Alberta.....	303,000	1,707,000	1,408,000	528,000	197,000
British Columbia.....	100,000	277,000	47,000	83,000	31,000
Totals, 1954. . .	3,233,000	6,721,000	5,141,000	1,804,400	993,300
1953. . .	3,146,200	6,616,000	4,447,000	1,721,300	1,096,200



Driving beef cattle to shipping point, Cariboo District, B.C.

Marketings of cattle and calves in 1953 through recorded commercial channels (registered stockyards, inspected packing plants and for export) were up sharply from 1952 totals; cattle marketings increased almost 24 p.c. and calves 31 p.c. Sheep and lamb marketings exceeded the 1952 totals by almost 4 p.c. and marketings of hogs were lower by 25 p.c. Average prices at Toronto* in 1952 and 1953 (1952 averages in brackets) were as follows: Steers up to 1,000 lb., good, \$20.25 (\$25.15), common, \$15.53 (\$19.85); Stocker and Feeder Steers, common, \$16.04 (\$20.15); All Calves, \$20.62 (\$24.00); Hogs, B1 dressed, \$30.40 (\$25.70); Lambs, good, \$23.37 (\$26.05).

The decline in pork production in 1953 and the consequent higher price in relation to other meats led to a decrease of pork consumption and favoured higher consumption of beef and veal.

* Source: *Livestock Market Review*, Marketing Service, Department of Agriculture, Ottawa.

Commercial Marketings of Live Stock, by Province, 1953 with Totals for 1952

Province	Cattle	Calves	Hogs	Sheep and Lambs
	No.	No.	No.	No.
Prince Edward Island	12,511	1,901	77,992	14,830
Nova Scotia.....	4,835	2,471	21,037	10,447
New Brunswick.....	9,915	23,807	38,120	15,703
Quebec.....	86,952	267,140	810,561	144,118
Ontario.....	594,994	248,009	1,844,653	167,915
Manitoba.....	174,806	81,754	321,260	32,802
Saskatchewan.....	369,895	91,427	419,997	46,678
Alberta.....	471,634	113,676	1,445,028	112,523
British Columbia.....	42,057	7,537	39,433	25,273
Totals, 1953.....	1,767,599	837,722	5,018,081	570,289
1952.....	1,427,993	637,863	6,699,056	550,340

Estimated Meat Production and Consumption, 1952 and 1953

Item	1952	1953	1952	1953
	Beef		Veal	
Animals slaughtered..... No.	1,459,070	1,837,500	959,184	1,318,295
Animals exported..... "	14,930	67,300	516	2,205
Meat production ¹ '000 lb.	726,638	902,966	98,149	137,994
Total domestic disappearance ..	645,192	873,196	96,693	134,998
Per capita disappearance.... lb.	44.7	59.1	6.7	9.1
	Pork		Mutton and Lamb	
Animals slaughtered..... No.	8,864,118	6,892,145	595,939	679,253
Animals exported..... "	703	21,124	661	2,347
Meat production ¹ '000 lb.	1,181,593	915,204	26,195	28,984
Total domestic disappearance ..	950,505	842,488	27,562	34,319
Per capita disappearance.... lb.	65.9	57.0	1.9	2.3
	Offal		Canned Meat	
Production..... '000 lb.	83,128	83,009	144,183	55,494
Total domestic disappearance ..	79,694	76,941	89,052	83,306
Per capita disappearance.... lb.	5.5	5.2	6.2	5.6

¹ Production from animals slaughtered in Canada, basis cold dressed carcass weight excluding offal and, in the case of pork, fats and offal.

Registered Jerseys with high production records from a herd producing milk for the fluid market.



Milk for the bottled trade in the larger urban centres is usually shipped in cans and hauled by private or dairy trucks. The farmer pays the cost of transportation.



Dairying

Milk.—Total milk production in 1953 was estimated at 16,424,800,000 lb., 4 p.c. above the 15,734,603,000 lb. produced in 1952. In the first eight months of 1954 the output again increased, being 3 p.c. more than in the same months of 1953. This latter increase was the result of more cows being kept for milking as well as exceptionally good pasture conditions in all parts of Canada during the producing season. The number of cows milking on June 1, 1954, was 3,233,000, 3 p.c. more than on June 1, 1953.

Butter.—Creamery butter production, which had declined 34,000,000 lb. between 1947 and 1951, subsequently moved to higher levels. The output

of approximately 302,606,000 lb. in 1953 was 8 p.c. higher than in 1952 and the January-October output in 1954 was 4 p.c. above the same period of 1953. On the other hand, dairy butter production has declined steadily since 1949 and reached a low point of 21,289,000 lb. in 1953. The output for January-September 1954 showed a further decrease of 3 p.c. as compared with the same period of 1953. Stocks of butter in storage at the end of the 1954 producing season (Oct. 1) were 21,000,000 lb. higher at 115,306,000 lb. than those on the same date of 1953, which were, in turn, 17,000,000 lb. above those on Oct. 1, 1952. The domestic disappearance of butter, including creamery, dairy and whey butter, amounted to 308,674,000 lb. in 1953. This represented an average of 20.88 lb. per capita compared with 20.82 lb. in 1952, 22.33 lb. in 1950 and 28.73 lb. in 1948. The decline since 1948 followed the introduction of margarine early in 1949. Per capita domestic disappearance of margarine was 7.46 lb. in 1953.

Dairy Production, by Economic Area, 1951-53

Economic Area and Year	Milk		Manufactured Milk Products ¹			
	Fluid Sales	Total Milk Pro- duction	Butter		Cheddar Cheese	Ice Cream
			Creamery	Dairy		
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 gal.
Maritimes.... 1951	314,228	1,046,817	16,859	4,820	2,209	2,676
1952	325,307	1,026,830	16,808	3,889	1,400	2,541
1953	334,915	1,099,047	19,794	3,804	1,324	2,436
Que. and Ont.. 1951	3,310,982	10,010,180	158,500	7,674	82,112	14,451
1952	3,415,808	10,442,330	181,261	7,076	62,462	15,884
1953	3,562,228	10,875,056	194,801	5,833	69,021	17,262
Prairies..... 1951	641,307	3,618,681	79,140	13,607	3,906	5,347
1952	666,593	3,607,834	79,007	12,062	3,490	5,873
1953	704,186	3,725,571	82,645	10,973	4,181	6,082
B.C..... 1951	351,993	634,293	2,666	729	557	2,892
1952	348,694	657,609	3,670	742	466	2,964
1953	359,710	725,126	5,366	679	659	3,058
Totals..... 1951	4,618,510	15,309,971	257,165	26,830	88,784	25,366
1952	4,756,402	15,734,603	280,746	23,769	67,818	27,262
1953	4,961,039	16,424,800	302,606	21,289	75,185	28,838

¹ Not included in this table are: whey butter with a production of 1,738,000 lb. in 1953 and 1,713,000 lb. in 1952, other cheese with 6,475,000 lb. and 5,850,000 lb., respectively, and concentrated milk products with 439,911,000 lb. and 473,051,000 lb., respectively.

Cheese.—Cheddar cheese production in 1953 at 75,185,000 lb. was 11 p.c. higher than that in 1952, and the 1954 January-October production was 10 p.c. above the same months of 1953. The domestic disappearance of cheddar cheese in 1953 was 66,659,000 lb. and of other varieties of cheese (including imports) 11,906,000 lb., making a total of 78,565,000 lb. compared with 74,100,000 lb. in 1952 and representing 5.31 lb. and 5.14 lb. per capita, respectively. Exports of cheese in 1953 amounted to 16,429,000 lb. compared with about 2,000,000 lb. in 1952, 30,653,000 lb. in 1951 and 63,110,000 lb. in 1950. The January-September average price of cheese at Montreal was 32½ cents for the first grade Ontario product; the average for the same

period of 1953 was 31 cents. Cheese marketed by the Ontario Cheese Producers Marketing Board gave producers about 28 cents per lb. f.o.b. factory.

Concentrated Milk and Ice Cream.—The output of concentrated milk products in 1953 was 439,911,000 lb. compared with 473,051,000 lb. in 1952. The production of evaporated milk, the most important of these products, decreased from 305,715,000 lb. in 1952 to 272,009,000 lb. in 1953 and the output of skim-milk powder decreased from 88,229,000 lb. to 83,042,000 lb. in the same years. The production of ice cream at 28,838,000 gal. was 6 p.c. higher than in 1952 but in the January-October period of 1954 it decreased 2 p.c. compared with the same period of 1953.

Income.—Farm income from dairying in 1953 amounted to \$450,174,000 of which \$413,127,000 was cash income and \$37,047,000 income in kind. Prices of all products declined in 1953 as compared with 1952.

Poultry

The total number of poultry on farms in Canada (exclusive of Newfoundland) was 71,695,000 birds on June 1, 1954, an 8-p.c. increase over the 66,451,000 birds on June 1, 1953. Total hens and chickens increased 7.4 p.c. to 67,609,000, and turkey numbers were also substantially higher.

Egg production in 1953 was estimated at 353,199,000 doz. compared with 341,512,000 doz. in 1952 and the per capita consumption of eggs was 23.4 doz. in 1953 and 22.7 doz. in 1952. Poultry meat output, estimated at 385,064,000 lb. in 1953; decreased by about 5 p.c. from the 1952 production, and per capita consumption also decreased to 27.1 lb. from 29.6 lb. in 1952. The total value of eggs and poultry meat produced in 1953 was \$325,005,000.



Until recently a luxury fowl available only in the Thanksgiving and Christmas seasons, the turkey now appears on the market the year round in frozen state—eviscerated, nicely wrapped in transparent covering and ready for the oven.

Poultry on Farms, by Province, June 1, 1952-54

(Exclusive of Newfoundland)

Province and Year		Hens over Six Months Old	Total - Hens and Chickens	Turkeys	Geese	Ducks
		'000	'000	'000	'000	'000
Maritime Provinces.....	1952	1,506	3,550	90	30	23
	1953	1,575	3,490	92	30	23
	1954	1,635	3,970	100	30	23
Quebec.....	1952	3,500	9,875	440	13	49
	1953	3,300	9,800	375	14	53
	1954	3,650	10,859	460	15	56
Ontario.....	1952	7,000	20,700	692	137	166
	1953	7,200	23,400	568	147	168
	1954	7,300	24,000	655	135	150
Prairie Provinces.....	1952	7,370	23,767	1,645	185	234
	1953	7,340	22,370	1,355	182	217
	1954	7,150	24,650	1,750	172	237
British Columbia.....	1952	1,320	3,840	300	21	25
	1953	1,280	3,900	225	15	27
	1954	1,500	4,130	265	14	24
Totals.....	1952	20,696	61,732	3,167	386	497
	1953	20,695	62,960	2,615	388	488
	1954	21,235	67,609	3,230	366	490

Quantity and Value of Eggs and Poultry Meat Produced, by Province, 1953

Province	Eggs		Poultry Meat	
	Production	Value	Production	Value
	'000 doz.	\$'000	'000 doz.	\$'000
Maritime Provinces.....	28,566	14,451	21,039	10,164
Quebec.....	55,242	28,011	72,718	34,983
Ontario.....	142,623	70,042	150,764	64,245
Prairie Provinces.....	99,889	38,445	110,882	38,164
British Columbia.....	26,879	13,579	29,661	12,921
Totals, 1953.....	353,199	164,528	385,064	160,477
1952.....	341,512	134,226	405,398	166,260

Fur Farming

The fur farms of Canada produce many types of fur-bearing animals but mink and fox are by far the most important. Of the 2,518 fur farms in operation in 1952, 2,089 reported 287,213 mink valued at \$7,284,860 and 380 reported 7,366 foxes valued at \$140,261. The decline in popularity of the long-haired furs and the increasing interest in mink in its various colour phases has effected a change in the fur-farm picture. The number of foxes on farms decreased from 157,053 in 1937 to 7,366 in 1952 while mink, both standard and mutation types, increased in the same period from 71,410 to 287,213. In 1952, mutation mink comprised 52 p.c. of the total on farms

mink farm in Manitoba. While such farms are highly productive, animals trapped in the wild still provide about 77 p.c. of the income from raw furs.



beavers heading for a new home in a northern Quebec lake. A long-term rehabilitation program has increased the beaver population of that province to an estimated 150,000.



compared with 38 p.c. in 1951. The raising of mink is conducted now mainly on scientifically managed farms with the emphasis on quality and production of new colour phases. Of the total mink farms, 54 p.c. had 80 or more animals. Alberta had 280 farms in this group and Manitoba had 247. The introduction of the chinchilla by the fur-farming industry has created a new interest. These small fur-bearers, first brought in from South America in 1937, have increased on farms until 11,571 were reported in 1952 valued at \$2,123,000. The establishment of a market for chinchilla pelts is progressing.

The geographical distribution of farms has changed considerably over the years. Whereas the Maritime Provinces with their once-prosperous fox farms were the early centre of the industry, the recent widespread raising of mink in the other provinces has resulted in the bulk of the fur farms now being farther west. In 1952, British Columbia had 13 p.c. of the total fur farms, the Prairie Provinces 43 p.c., Ontario 25 p.c., Quebec 10 p.c. and the Maritimes 9 p.c.

The number of all pelts produced in 1952 was 691,127 valued at \$10,260,939 compared with 663,094 in 1951 valued at \$11,418,055. The average prices of the main kinds of pelts taken in 1951-52 were considerably lower than in the previous year, with the exception of mutation mink which rose from \$21.50 to \$24.82. A standard mink pelt brought \$12.53 and a silver fox pelt \$8.63.

Special Crops

Fruit.—Fruit is grown on a commercial scale in Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. The most important producing areas are in Ontario and British Columbia, the provinces which accounted for 44 p.c. and 33 p.c., respectively, of the value of all fruit produced in 1953. In most of the producing areas, particularly the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia, fruit-growing is the principal agricultural crop and its prosperity is of paramount importance to the economy of those areas.

Values of Fruits Produced, 1950-53, with Averages 1946-49

Fruit	Average 1946-49	1950	1951	1952	1953
	\$'000	\$'000	\$'000	\$'000	\$'000
Apples.....	17,057	12,467	13,893	17,391	16,978
Pears.....	1,899	1,877	2,238	2,371	2,576
Plums and prunes.....	1,302	1,016	865	1,033	1,198
Peaches.....	4,295	2,754	4,004	5,152	5,381
Apricots.....	410	77	116	342	401
Cherries.....	2,451	2,065	2,263	2,113	2,724
Strawberries.....	5,469	6,742	5,662	6,077	6,464
Raspberries.....	3,271	2,840	3,133	2,565	3,087
Grapes.....	2,825	3,543	2,813	3,052	3,508
Loganberries.....	208	166	147	158	236
Blueberries.....	..	..	..	3,384 ^a	3,180
Totals, All Fruits.....	39,187	33,547	35,134	43,638	45,733

The apple is, of course, of major importance among the fruits grown, there being large plantings in each of the above-mentioned provinces. In considering trends in the apple industry, it is necessary to make comparisons over a period of years because of the length of time necessary for new orchards to come into bearing. The Canadian industry has experienced some changes since pre-war years with respect to relative importance of the different producing provinces and the marketing pattern. There has been a considerable decline in apple production in Nova Scotia but, on the other



Pruning apple trees is a winter job in the Okanagan Valley, B.C., but spring is not far behind.

hand, Quebec and British Columbia are producing larger crops than they did in the 1935-39 period. The reduction of plantings in Nova Scotia was largely the result of the virtual loss of the overseas market caused by wartime shipping shortage and later by exchange difficulties. In the 1935-39 period an average of more than 6,000,000 bu. of fresh apples were exported annually: in the crop year 1953-54, exports were less than 2,000,000 bu. This decrease in exports was accompanied by an increase in the quantity of apples sold fresh on the domestic market. The volume processed rose during the later war and early post-war years but has since settled back to about the pre-war level. Estimates place the 1954 apple crop at 14,100,000 bu., an increase of 20 p.c. over 1953. Production was up in all apple-producing provinces except New Brunswick where there was a small decline.

Strawberries and raspberries are also grown in commercial quantities in the five fruit-producing provinces but production of pears, peaches, cherries, plums and prunes is very largely confined to British Columbia and Ontario. Ontario produces practically all the grapes grown in Canada and British Columbia is the only province in which apricots and loganberries are grown commercially. Production of all these fruits, except grapes, was lower in 1954 than in 1953 because of unfavourable weather conditions experienced during much of the growing season in both Eastern and Western Canada. November 1954 estimates of production, with final figures for 1953 in parentheses, were: pears 1,260,000 bu. (1,435,000); plums and prunes 754,000 bu.



*Instructor at
Niagara Parks C
mission School
Gardening dem
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method of cut
flowers. The sch
offers a thoro
three-year course
practical garden*

(775,000); peaches 2,335,000 bu. (2,893,000); apricots 158,000 bu. (165,000); cherries 431,000 bu. (449,000); strawberries 28,429,000 qt. (30,075,000); raspberries 13,598,000 qt. (15,113,000); loganberries 1,601,000 lb. (1,687,000); and grapes 88,198,000 lb. (80,533,000).

Canning and processing industries have developed in the fruit-growing districts and although the importance of the processing market varies with different fruits it provides a valuable outlet for substantial proportions of most Canadian-grown fruit crops. Some canned fruits are exported.

Tobacco.—Production of all types of tobacco in 1954 was estimated at about 186,500,000 lb., an increase of more than 47,000,000 lb. over the 1953 total of 139,190,000 lb. Because of the prospect of increased purchases by the United Kingdom, the Flue-Cured Marketing Association of Ontario

The Farm Improvement Loans Act which assists farmers in securing credit for the improvement and development of their farms, is widely used in the tobacco areas of Ontario for the financing of portable sprinkler systems.



allowed the full base acreage to be planted to flue-cured tobacco in 1954 as compared with 75 p.c. in 1953. In 1954 variable weather conditions were experienced in the tobacco-growing areas of Ontario and Quebec. Although soil moisture had been low in some of the Ontario districts, periodic light refreshing showers in late August and early September were extremely valuable in arresting loss. In addition, an increased number of growers took advantage of supplementary irrigation in 1954. Tobacco acreages in 1954, with data for 1953 in parentheses, were: Quebec 10,166 acres (9,020); Ontario 118,600 acres (91,996); and British Columbia 72 acres (72).

Honey.—Honey is produced commercially in all provinces of Canada, Ontario having the largest output. From 1951 to 1953 the annual farm cash income from the sale of honey decreased from \$6,445,000 to \$4,099,000. Preliminary estimates place the 1954 crop at 19,900,000 lb., about 25 p.c. lower than the 1953 crop of 26,400,000 lb. It was the smallest crop since 1926 and 43 p.c. below the 1943–52 average of 34,600,000 lb. Unfavourable

Harvesting sugar beets
in Manitoba.





Off to the maple sugar bush—a spring activity that adds to the income of many farmers, particularly in the Eastern Townships of Quebec.

weather experienced throughout much of Canada in 1953 resulted in low average yields per colony everywhere except in Quebec. In 1954 the number of beekeepers increased by 6 p.c. to 14,740, which was the first upward change since 1945 when there was a record maximum of 43,300. Colony numbers, however, were down slightly in 1954 from 1953, particularly in Quebec and Ontario.

Sugar Beets.—Sugar beets are grown commercially in Quebec, Ontario, Manitoba and Alberta, and sugar-beet processing plants are located in each of these provinces. In 1954, 1,003,853 tons of sugar-beets were produced from 90,453 acres compared with 900,339 tons in 1953 from 81,952 acres. Harvested acreages in 1954, with data for 1953 in parentheses, were: Quebec, 6,473 (7,025), Ontario 23,504 (22,771), Manitoba 23,510 (17,455) and Alberta 36,966 (34,701). The increased acreage in Manitoba was mainly responsible for the larger crop in 1954—the fourth largest on record.

Maple Products.—In 1954, 2,304,000 gal. of maple syrup and 1,175,000 lb. of maple sugar were produced. The gross farm value of these products amounted to \$11,000,038, about \$3,700,000 higher than in 1953. The increase in value is attributable to both a large crop and higher prices, the prices reflecting in part the relatively good quality of the output and better offers for that portion exported. Quebec accounted for 88 p.c. of the total syrup production and 94 p.c. of the sugar production. Nova Scotia, New Brunswick and Ontario shared the remainder.



The farmer's boy is the lucky boy, with most of the home comforts and educational opportunities of the city lad—but with all outdoors for a playground.



Lac Cassé falls is the site of the first of the hydraulic works of the great Bersimis River hydro-electric project now under construction in the Quebec wilderness, north of the St. Lawrence River.

Water Power

• Water Power and Canada's Economic Development

CANADA'S extensive water-power resources have been a major factor in her economic development—industrially and geographically. As the source of large quantities of low-cost power, they have made possible the exploitation of her nation-wide forest, mineral and other primary resources on a scale unmatched elsewhere in the world. They have also been an important influence in the gradual industrialization of the country.

The development of power and the establishment of industry is coincident. In most sections of Canada, geological formations, climate and topography combine to create sources of hydraulic power. The Canadian Shield contains, in the basins and waters of its rivers, many falls and rapids and innumerable storage reservoirs either natural or capable of economical creation by artificial means. The most accessible and readily harnessed of the power sites—those in the settled areas of Ontario and Quebec—were the first to receive attention. As the demand for power increased, hydraulic development was extended and as more power became available, industry was extended to utilize it. Thus, the Great Lakes-St. Lawrence region of these two provinces, where native coal is not available but which abounds in many raw materials of industry, is now the most highly industrialized and densely settled portion of the country.

British Columbia, third among the provinces in population and production, is also third in developed water power. The rivers of this mountainous area offer many high-head sites for some of which storage and concentration of flow by the diversion of smaller streams provide great power possibilities. The economy of British Columbia was founded upon and still depends on the Province's vast forest and mineral resources; the development of the great pulp and paper plants and the smelters was coincident with the development of water power. The attraction of the power potential of British Columbia and of Yukon Territory to new industry is realized to be a future asset of first importance.

In the Atlantic Provinces, precipitation is moderately heavy and the rivers, though not large, afford many possibilities for moderate-sized developments which are gradually being constructed as required. Only the prairies of the south middle-west are without water-power resources, a lack compensated for by the large coal and oil reserves of that area.

Canada's installed capacity of 17,000,000 h.p. is higher than that of any other nation in the world, with the exception of the United States with its 35,000,000 h.p. As for per capita installation, Norway comes first with 1.3 h.p. and Canada second with 1.1 h.p. followed in order by Switzerland, Sweden and the United States. It is interesting to note, however, that the per capita installations of Quebec and British Columbia (both 1.8 p.c.) are above the Norway figure.

When terminated, Bersimis development of the Quebec Hydro Electric Commission will feature almost perfect control of the river and complete harnessing of its hydraulic resources. A high-tension transmission line will distribute the power to the Labrador-St. John - Quebec - Montreal system and eastward to the Gaspé peninsula.



Available and Developed Water Power, by Province, Jan. 1, 1955

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	958,500	2,754,000	323,150
Prince Edward Island.....	500	3,000	1,882
Nova Scotia.....	25,500	156,000	170,908
New Brunswick.....	123,000	334,000	164,130
Quebec.....	10,896,000	20,445,000	7,773,822
Ontario.....	5,407,000	7,261,000	4,845,486
Manitoba.....	3,333,000	5,562,000	756,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	508,000	1,258,000	258,710
British Columbia.....	7,023,000	10,998,000	2,246,868
Yukon and Northwest Territories.....	382,500	814,000	32,440
Canada.....	29,207,000	50,705,000	16,684,131

Person for person, Canadians use about six times as much hydro-based power as do Americans. One reason for this difference is that Americans, because of location, must rely much more heavily on thermal sources (coal, oil and natural gas) to meet the expanding requirements of their main centres of population and industry. In Canada, 95 p.c. of all power produced for sale is generated hydraulically as compared with about 20 p.c. in the United States. Another and perhaps equally important reason for the higher per capita use of hydro power in Canada is low cost. Residential and commercial customers in Canada pay about half, and industry less than a third, of the rates charged for similar services in the United States. Rural power is the only exception; wide-spread farm electrification in Canada and the low density of population in country areas has resulted in more costly rural power.

This factor of lower price stems from a number of considerations. The major one is, of course, the abundance of economic water power coupled

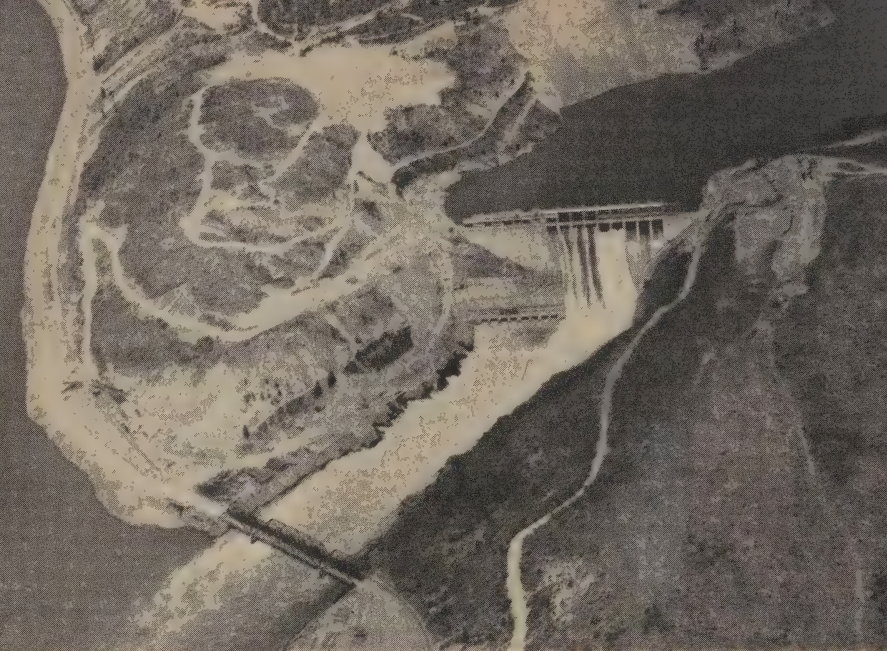


The new town of Labrieville has taken form. Problems of providing accommodation and services for employees during and after the construction period are as limitless as those of the project itself.



with a great accumulation of experience in the related fields of engineering and operation. In addition, most of Canada's power utilities are large enough to have achieved well-balanced year-round operations. The others are mostly on-site power users whose transmission and distribution costs are held to a minimum. Time, too, has been a favourable factor since many Canadian power plants were built when construction costs were only a fraction of what they are to-day; also these plants have not had to contend with the inflationary effect of rising fuel costs—a common experience in most thermal power-using economies since the late 1930's.

Records show that water power was used for lighting sawmills in Ottawa as early as 1882, the same year in which electricity was offered for sale in London and New York. Before 1890 it was being distributed throughout a number of towns in Ontario and Quebec, and what was probably the first actual long-distance transmission line in the British Empire was constructed in southern Quebec in 1895. Improvement in the technique of transmission



Waneta power plant and dam, 11 miles south of Trail, B.C., was brought into operation in 1954. It has an ultimate capacity of double the 240,000 h.p. now installed.

together with the perfecting of the electric motor and the adaptation of electricity to metal-refining and the manufacture of electro-chemicals, provided the basis for Canada's great electric-power industry. Many power-using industries and major networks of to-day can trace their beginnings back to around 1900.

At first industry tended to concentrate on the production of electric power for its own use, factories and street railways preferring to run their own generating facilities rather than depend for their power on specialized utilities. But, as the problems associated with large-scale generation and transmission were solved, the economies inherent in load balancing and guaranteed service became evident, and transmission lines were gradually extended to comprise what have subsequently become giant power-transmission networks. Between 1910 and 1930 many large smelters and refineries and pulp and paper-making establishments were put into operation in widely separated sections of the country and the amount of purchased power grew rapidly. Well before the start of the depression of the 1930's, less than 10 p.c. of the nation's electric power was being produced by industries for their own use.

For a long time, electric lighting played the most prominent role in consumption of power. Twenty-four-hour operations did not become general until after World War I when better loading patterns were developed as a result of new applications for power in industry and the extension of household and commercial uses. Residential sales have since presented a record of almost uninterrupted expansion and, although sales to commercial and

manufacturing establishments have been modified by changing business conditions, power consumption for these purposes has rarely fallen off. Instead, the tendency for power to replace labour has increased during periods of recession. Productivity has been stimulated and this, in turn, has speeded the recovery of the more power-oriented industries in the Canadian economy. The history of power consumption may be traced by noting the dates on which certain milestones were passed. In May 1926, Canadian consumers first used more than one billion kilowatt hours in a month. Consumption passed its second billion early in 1936, its third in 1941, its fourth in 1948 and, in an astonishing spurt, its sixth billion a month late in 1953. The tempo of demand is still rising, and the upward trend of consumption will probably continue at about the same level until 1960.

Power for the mining and metallurgical industries of Gaspé peninsula.



The longest high-voltage submarine cable ever laid carries power from the north shore of the St. Lawrence River to the south shore east of Rimouski, to serve the Gaspé peninsula. Initial power from the Manicouagan River will be replaced by power from the Bersimis plant when completed. The cable was laid on July 29, 1954.



The growth of the generating capacity* of hydro plants has averaged a quarter of a million horse power a year during the past half-century:—

1900.....	200,000 h.p.	1940.....	8,600,000 h.p.
1910.....	1,000,000 h.p.	1950.....	12,600,000 h.p.
1920.....	2,500,000 h.p.	1955 (est.).....	17,200,000 h.p.
1930.....	6,100,000 h.p.		

Along with the advance in capacity has come a corresponding advance in the effective use of that capacity. At the end of 1950, the generating capacity of utilities was five times as great as in 1920, but the amount of power produced was nine times as great.

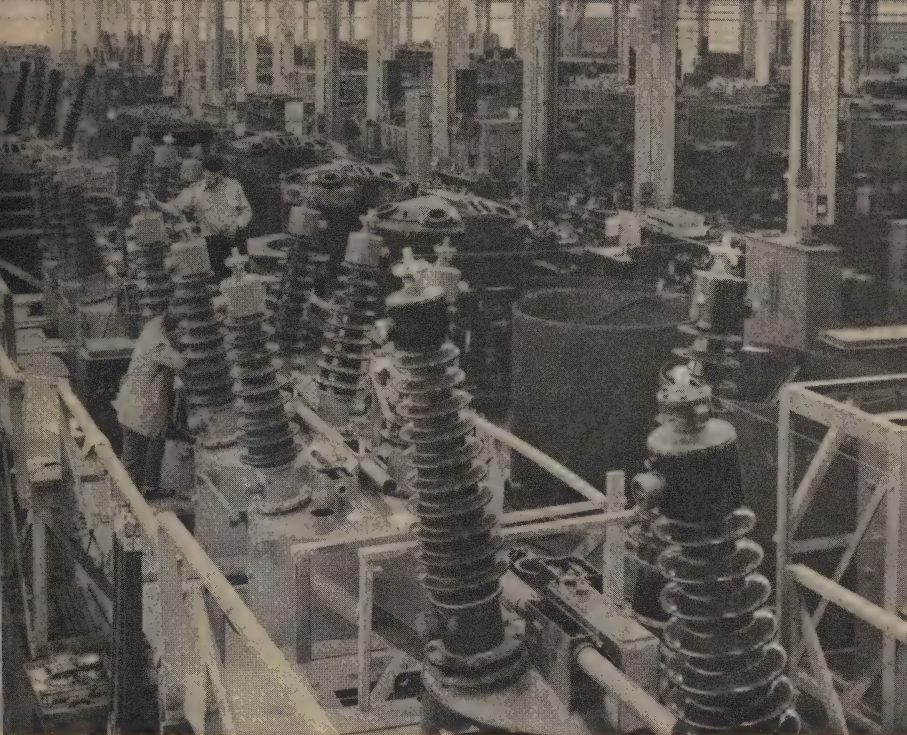
What has brought about this greater utilization of plant? Year-round, 24-hour operations in chemical and metallurgical type industries have helped to build up base loads. Refrigeration and thermostatically controlled space heating have worked in the same direction. Television is providing an element of continuity and new summer demands like air-conditioning are beginning to offset the high winter peak lighting and water-heating loads which formerly called for so much stand-by capacity.

Great improvements have also been made from the operational standpoint. Regulation of stream flow through the use of storage has multiplied the power potentialities of many river systems. Tributary and inter-basin connections have made it possible to offset their different generating characteristics. Borrowing or selling during peak demand periods has gone hand in hand with improved methods of long-distance transmission. Co-operation between systems, for reasons of economy, have become essential and have led to over-all river basin developments. Exports and imports (inter-regional, interprovincial or international) have often provided the only means by which stand-by capacity could be reduced and existing plants put to maximum use.

* Capacity for the generation of electric power is measured in horse power or kilowatts and the quantity delivered in kilowatt-hours. If generators could be operated continuously at maximum capacity throughout the year, the kilowatt-hours would be 8,760 times the kilowatts. For a number of reasons this cannot be done, principally because the need for electricity is not constant throughout the day, week or year.



A 50-year-old drove took its first form Aug. 10, 1954, with the \$1,000,000 St. Lawrence port and seaway development got officially under way. A turning ceremony performed by P. Minister St. Lawrence Governor Dewey New York and Premier Frost of Ontario launched the project.



Circuit breakers under construction. The electrical apparatus and supplies industry in Canada has an annual output of about \$250,000,000.

As a result, the ratio of actual usage to full-time capability of equipment has risen from 25 p.c. at the beginning of the century to 46 p.c. in 1950 and will probably be over 50 p.c. in 1955. Peak operations for a utility are reached only on those rare occasions when daily and seasonal peak demands coincide, but provision must be made for maximum load, including adequate allowance for repairs and periods when plant is not operating for other reasons. Thus full-time utilization of approximately one-half of generating capacity represents a noteworthy technological and administrative achievement.

Abundant supplies of cheap electricity have in the past fostered the establishment of large power-consuming industries, such as pulp and paper mills and non-ferrous metals smelters and refineries, which together consume two-thirds of all the power used in manufacturing in Canada. These industries have tended to migrate to areas in which large blocks of electric energy could be developed alongside either the necessary raw materials or avenues of transportation. For a long time, competing demands for electricity from small power users were not a factor and electricity was largely responsible for many of the single-industry towns that have become established across the country.

Long-distance transmission and the use of all electrical machinery have brought many advantages to the manufacturer. The productivity of labour has been increased immeasurably; it has been estimated that the present installed capacity, if operated at full load, is capable of producing energy at

a rate equal to the working capacity of 167,000,000 men. Power can now be brought to the factory so that greater flexibility is afforded as far as location is concerned. An industry is frequently free to base its choice of site on such other considerations as proximity to raw materials, markets and labour. Factory layouts have been made more efficient and employees provided with cleaner, safer working conditions. The installation of individual motors makes possible the isolation of breakdowns and the reliability of operations has been greatly increased.

The power industry has also been instrumental in encouraging the establishment and diversification of the electrical apparatus and electronic equipment manufacturing industries. The early construction period brought firms making heavy machinery such as turbines, generators and electric motors, several of the largest of which were branches of United States companies. In the late 1920's and the 1930's plants were built for the production of household appliances and radios. The electronics industry became established during World War II and, along with industries producing radar and television equipment and similar types of electrical apparatus and supplies, has continued to expand in terms of both value of production and quality of output.

The effect of the development of water power on Canada's economic growth cannot be measured in over-all terms but, for every dollar spent on the construction of new power capacity and transmission facilities, two dollars have gone into the building and equipping of new manufacturing plants. For every employee engaged by the power companies, 50 have found jobs in secondary industry and for each additional outlay on electric power, as a cost of production, the nation's output of manufactured goods has advanced a hundred fold.

It is therefore not surprising that great hopes are held for Canada's future. With projects totalling approximately 10,000,000 h.p. scheduled or proposed for completion by 1965, abundant electricity will be available for utilization, and the advance of this basic industry will help, through its very momentum, to carry along with it the rest of the Canadian economy. Thus, in innumerable and unforeseen ways, it will continue to do what it has accomplished so well in the past—stimulate industrial development in those resource and resource-allied fields in which Canada possesses its greatest natural advantage.

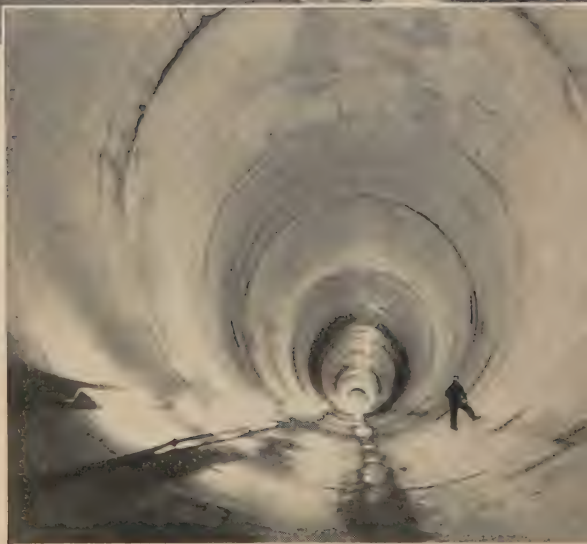
• *Hydro-Electric Construction during 1954*

Hydro-electric capacity brought into operation during the year 1954 reached a record high. New plants, with a total installation of 1,758,450 h.p. were well distributed across the country but the major developments were in British Columbia and Ontario. At the end of the year, projects having a total capacity of more than 3,000,000 h.p. were under construction or were definitely planned for construction within the next few years.

Ontario.—The Hydro-Electric Power Commission of Ontario completed the installation of seven units, each of 105,000 h.p., in its Sir Adam Beck Generating Station No. 2 on the Niagara River. The present plant, to be completed in 1956, is designed for 12 similar units but ultimately the total installation may be raised to 1,500,000 h.p. The power produced will serve



Sir Adam Beck Generating Station No. 2 project on the Niagara River has involved extensive intake works, two 45-foot tunnels $5\frac{1}{2}$ miles long, two miles of canals, headworks and a power house. Completion is scheduled for 1956.



to meet the growing needs of southern Ontario's diversified industries. In northwestern Ontario, the Commission completed two units each of 45,000 h.p. in its Pine Portage generating station on the Nipigon River, bringing capacity to 172,000 h.p. Progress was made on the initial stages of the 55,500 h.p. development at Manitou Falls on the English River for 1956 operation. Demand in this area is principally from mining and pulp and paper industries.

Final agreement was reached with United States authorities towards the development of the rapids on the international section of the St. Lawrence River and the Ontario Hydro, as the participating Canadian agency, began preliminary construction. The scheme involves the building of a dam and power house at the foot of Barnhart Island, a dam on the American channel at the Long Sault rapids and a control dam at Iroquois. Total installed capacity will be 2,400,000 h.p. in 32 units each of 75,000 h.p., equally divided between the two countries, and full operation is planned for 1958. Considerable flooding of land on the Canadian shore will involve major problems of re-location of highways, railroads and communities.

The Great Lakes Power Company completed its two-unit 15,000-h.p. development at McPhail Falls on the Michipicoten River, bringing the total capacity of the Company to 148,100 h.p. in six plants which serve principally the mining, steel and pulp and paper industries in the Sault Ste. Marie area.

Quebec.—Only a small amount of new capacity was brought into operation in Quebec in 1954, but the Quebec Hydro-Electric Commission was busy with the construction of its very large Bersimis River project designed for 1,200,000 h.p. in eight units, of which three are expected to be in operation in 1956. The scheme involves the construction of a 200-ft. dam, a $7\frac{1}{2}$ -mile tunnel 31 $\frac{1}{2}$ ft. in diameter, and an underground powerhouse. The power produced will be used initially to serve principally the mining and metallurgical industries in the Gaspé peninsula by means of a 69-kv. submarine cable 31 $\frac{1}{2}$ miles in length which was laid in 1954 across the bed of the St. Lawrence River, but interconnection will be made later with the Lake St. John and Shawinigan systems and with the Commission's network in the Montreal area. The transmission line from Bersimis to Montreal will be 400 miles long and carry power at 300-kv.

Plants completed during the year include: 32,000 h.p., Rapid II, Ottawa River, Quebec Hydro-Electric Commission; 17,000 h.p., Ste. Marguerite River, Ste. Marguerite Power Company, serving the Sept-Iles area; 4,500 h.p., Gayhurst site, Chaudière River, City of Mégantic; and 1,200 h.p., Lac des Sables, Petites Bergeronnes River, Quebec Rural Electrification Bureau. For 1955 operation, the Shawinigan Water and Power Company is installing one additional unit in each of its Rapide Blanc, La Trenche, and La Tuque plants, for a combined total of 158,500 h.p.

British Columbia.—The highlight of hydro-electric construction in 1954 was the completion of the first stage of the Kemano-Kitimat project of the Aluminum Company of Canada and the pouring of the first aluminum ingot at the new smelter. The first three turbines, each of 150,000 h.p., were brought into operation and power is being delivered at 287-kv. over the 50-mile transmission line to Kitimat. The planning and execution of this great development amid the snow-capped mountains of the Coast Range has caught the imagination of people everywhere; it has involved the reversal of the flow of rivers by the highest rock-fill dam in Canada, the creation of an immense storage reservoir, tunnelling for ten miles through mountains, the first underground power house in Canada, and the largest impulse turbines in operation anywhere. The development has an ultimate capacity of about 2,000,000 h.p. Present capacity of the smelter is 183,000,000 lb. of aluminum a year, with a potential of 1,100,000,000 lb., a production that will further

*Two-thirds of all the power
used in manufacturing is con-
sumed by non-ferrous metal
smelters and refineries and
pulp and paper mills.*



strengthen Canada's position as the most important source of this vital metal among the free countries.

The Consolidated Mining and Smelting Company completed the first stage of its Waneta development on the Pend d'Oreille River, bringing into operation two units each of 120,000 h.p. The British Columbia Electric Company finished installing 62,000 h.p. in its Bridge River plant and is proceeding with the development of 58,000 h.p. at Seton Creek. The British Columbia Power Commission continued work on the re-development of 35,000 h.p. at Puntledge River and is building a plant of 5,250 h.p. on the Spillimacheen River.

In northern British Columbia and southern Yukon, Northwest Power Industries Limited continued investigations towards a major hydro-electric development with an ultimate capacity of perhaps 4,300,000 h.p. The scheme involves the conversion of the large lakes in the headwaters of the Yukon River into a huge storage reservoir by the building of dams near Whitehorse and at other locations. The flow of the main Yukon River and of adjacent rivers and streams will then be diverted to the valleys south of Atlin Lake. In the first stage, Atlin Lake would be connected with Sloko Lake by tunnel and a small development of about 28,000 h.p. built on the Sloko River for construction purposes. A ten-mile tunnel would then be driven from Sloko Lake to the Nakonake Valley, providing a head of 1,100 ft. and allowing the development initially of 880,000 h.p. and ultimately of 2,800,000 h.p. Later, a third tunnel would convey the water to the Taku River valley near tidewater. The proposed industrial site is on the Taku River in British Columbia where smelters and refineries for metallurgical purposes would be located and a new city and port built.

Prairie Provinces.—Calgary Power Limited completed the installation of a new unit of 30,000 h.p. in its Ghost plant on the Bow River and also on its Bearpaw development of 20,750 h.p. near Calgary. The Manitoba Hydro-Electric Board brought into operation the first four units each of 10,000 h.p. in the 80,000-h.p. McArthur Falls development on the Winnipeg River with completion scheduled for 1955. A development of 300,000 h.p. on the Saskatchewan River is under consideration.

In addition to water-power development, the capacity of each of the steam plants at Saskatoon and Winnipeg was increased by 25,000 kw.

Atlantic Provinces.—Plants completed comprised only 9,000 h.p. on the Nictau River in Nova Scotia by the Nova Scotia Light and Power Company and 12,000 h.p. on the Ashuanipi River in Labrador by the Iron Ore Company. The New Brunswick Electric Power Commission has proposed undertaking, for 1957 operation, the development of the Beechwood site on the St. John River, the plant to contain initially two units and ultimately four units, each of 45,000 h.p. Power requirements in the Province are growing with the development of the mining and refining of base metals and the growth of the pulp and paper industry.

Investigations have been carried out by the British Newfoundland Corporation Limited with a view to the development of Grand Falls on the Hamilton River in Labrador. The Falls have a power potential of perhaps 3,500,000 h.p. with full storage on upper lakes and constitute one of the more important undeveloped sites in Canada.

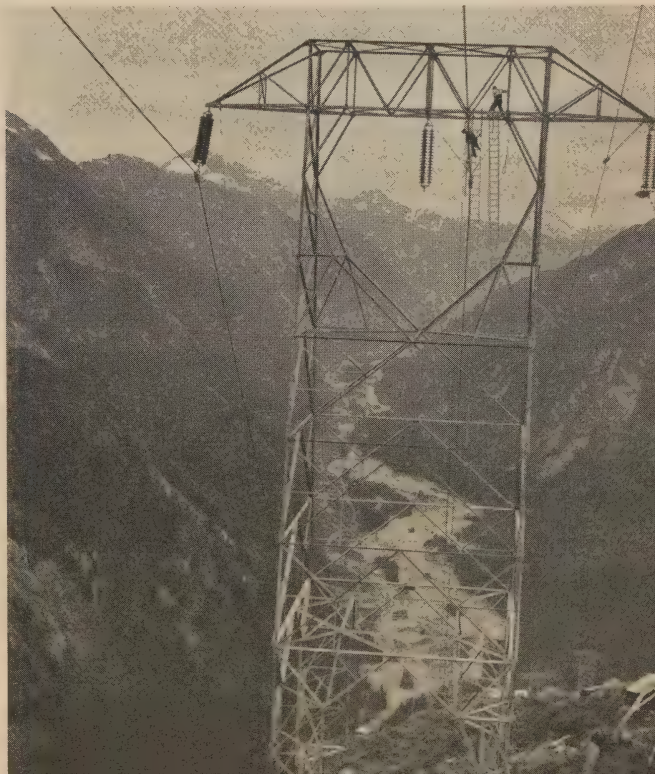
• *Central Electric Stations*

Central electric stations represent the electric-power industry and are either commercial (privately owned) stations or are publicly owned, that is, operated by federal, provincial or municipal governments. They include both wholesale and retail distribution systems, whether the energy is generated in their own plants or purchased for resale. They are also classified according to the kind of power used—hydraulic or water-driven, fuel or steam, and non-generating or distributing only.

The 344 hydraulic stations in Canada generate almost 97 p.c. of the total output of central electric stations and are the major sources of power for the pulp and paper, aluminum, smelting and other manufacturing industries. Canadians enjoy the advantage of probably the cheapest electricity in the world, in great volume, with a turbine installation of almost 16,700,000 h.p. More than half the farms in Canada and the great majority of urban homes have the benefits of power service. Revenues of central electric stations in 1952 totalled over \$415,494,074. Based on monthly output data, the generation of central electric stations since 1929 was as follows:—

	<u>1929</u>	<u>1939</u>	<u>1949</u>	<u>1953</u>	<u>1954</u>
	('000 kwh.)				
Generated by—					
Water power.....	17,294,463	27,861,784	45,084,284	61,608,324	65,846,417
Thermal engines.....	331,464	489,730	1,588,930	3,880,929	3,290,167
TOTALS.....	<u>17,625,927</u>	<u>28,351,514</u>	<u>46,673,214</u>	<u>65,489,253</u>	<u>69,136,584</u>

Highlight of hydro-electric construction in 1954—completion of the first stage of the Kitimat project in British Columbia. The first three turbines in the underground power house were put in operation and power delivered over the 50-mile transmission line.





British Columbia logs brought from the cutting areas by truck are transferred to the water secured into booms and floated to the mill.

Forestry

IT IS DIFFICULT to give a complete picture of the value of Canada's forests to the national economy. They generate, directly or indirectly, at least one-fifth of the total national income. They provide direct employment for hundreds of thousands of persons and keep great armies of workers employed elsewhere, notably in the chemical, machinery and electrical equipment industries and also in the fields of transportation, agriculture and hydro-electric power. They account for almost one-third of the total exports of the country and capital expenditures of the forest industries have recently run to about \$35,000,000,000 annually. It cannot be over-emphasized therefore that Canada has no better asset and none more worthy of careful management. The lumber and the pulp and paper industries whose future is dependent upon the perpetuity of the forests, the provincial governments who administer most of the forested land within their boundaries and the Federal Government whose interest is in forestry matters of national importance are all concerned with the conservation and protection of this valuable resource.

The total forested area of Canada* is estimated to be 1,485,870 sq. miles, 42 p.c. of the country's total land area. More than 44 p.c. of this forested area is incapable of producing crops of merchantable timber because of adverse climatic, soil or moisture conditions; although this portion is of little significance at present to the forest industries, it still provides valuable protection for drainage basins and shelter for game and fur-bearing animals. The country's productive forests extend over some 827,162 sq. miles—23 p.c. of the land area of Canada and 39 p.c. of the land area of the ten provinces. A total of 578,000 sq. miles, or 70 p.c. of the productive area, is considered accessible for economic exploitation. Trees of merchantable dimensions occupy 60 p.c. of this accessible area and the remainder is occupied by young trees that will grow to merchantable size. The inaccessible productive forests, 249,000 sq. miles in extent, constitute a reserve for the future.

Of the total productive forests, approximately 63 p.c. is comprised of softwood, 25 p.c. mixed wood and 12 p.c. hardwood. There are more than 150 tree species in Canada, 31 of which are conifers.

Of Canada's occupied forest lands, 30 p.c. is privately owned, the remainder being still in the possession of the Crown in the right of either the federal or provincial governments. Forests lying within the boundaries of the provinces, as with other natural resources, are administered by the provincial governments. The Federal Government is responsible for administration of forests in the Yukon and Northwest Territories, the National Parks and forest experiment stations. The general policy of the different governments is to dispose of the timber under their jurisdiction by means of leases and annual licences to cut, rather than by the outright sale of timberland.

Primary wood products cut from the forests were estimated to average about 3,370,000,000 cu. feet in the five years 1948-52. Total depletion for that period averaged 4,125,000,000 cu. feet, including an estimated 255,000,000 cu. feet destroyed by fire and 500,000,000 cu. feet by insects and diseases.

* All figures in this section are exclusive of Labrador, for which information is not yet available.



Federal Government foresters are almost entirely engaged in research, provincial foresters mainly in administration of forest lands, and private industry foresters in management and protection. Here a provincial forester is making a temperature study of a log where bird seedings are often found.

Of the wood utilized in 1952, 31.7 p.c. comprised logs and bolts, 27.7 p.c. pulpwood, 19.4 p.c. fuelwood and 3.0 p.c. other products. About 18 p.c. of the pulpwood and less than 1 p.c. of the logs and bolts was exported in unmanufactured form.

Forest growth is generally prolific in Canada and the saving of the woodlands ordinarily involves only proper management—adequate protection and the development of cutting methods that will encourage a maximum growth and yield. Much progress has been made during the past decade in scientific forestry and productivity is being increased by finding economic uses for a larger number of species and for hitherto waste material. Wherever possible, logs are diverted to the purpose to which they are best suited—lumber, plywood, pulp and other products. The different provinces are requiring lessees of Crown lands to establish and improve forest working plans in accordance with sound forestry principles; research is being intensified by both governments and industry; the Federal Government is assisting the provinces in the completion of their forest inventories and in the reforestation of Crown lands.



An average of 45 men are employed in a logger's camp in the Gatineau woods, Quebec. Accommodation is as comfortable as possible and food plentiful and nutritious. The camps are inspected regularly by company officials and kept to standard.

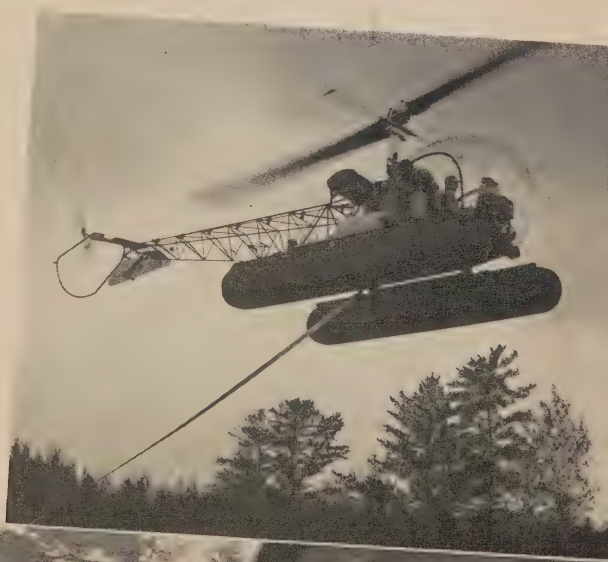
To-day, forest operations are thoroughly modern industrial undertakings in which up-to-date means of communication are used to direct tens of thousands of men over areas measured in tens of thousands of square miles. The wood is cut and moved by modern mechanical means. No longer is woods work a job only for those with strong backs and strong stomachs. Living conditions provided for the workers are good, food is good and no essential comforts are lacking. The number employed the year round in the forests is on the increase and where conditions permit, permanent forest communities have been set up and the surrounding woodlands are harvested on the basis of perpetual yield.

Forest Industries

The forest industries of Canada comprise woods operations, the lumber industry, the pulp and paper industry, and the wood-using and paper-using

Radio-equipped aircraft are used to good effect in many districts of Canada for the detection and suppression of forest fires.

Laying fire hose by helicopter. ►



Men and equipment are flown to the scene of a forest fire.



groups of industries, the latter groups using partially manufactured wood, pulp or paper as their raw materials. The net value of production for the forest industries was \$1,931,000,000 in 1952, which was 26 p.c. of the net value of production for all Canadian manufacturing industries.

In 1952, more than 362,000 men and women were directly dependent upon the forest industries for their livelihood—seven out of every 100 Canadian workers. The logging industry employed 149,000, the lumber industry 61,000, the pulp and paper industry 58,000 and the wood-using and paper-using industries 94,000.

Woods Operations.—East of the Rocky Mountains, logging operations are generally carried on by individual lumber companies and by pulp and paper companies, although the latter obtain a moderate part of their requirements from independent pulpwood loggers. In British Columbia most of the large lumber companies operate their own logging units. Truck logging has almost replaced railroad operations and, as a result, there has been some increase in the number of small independent truck loggers but their output is only a small proportion of the total for the Province. A not inconsiderable part of the country's primary forest production comes from farm woodlots; the chief product is fuelwood, but quite large quantities of pulpwood, sawlogs and wood products for use on the farm and for wood-using industries are also produced from these areas. The output of primary forest products declined slightly in volume but increased in value in 1952; production amounted to over 3,565,000,000 cu. feet valued at \$815,651,194.

Value of Primary Forest Production, 1951 and 1952

Product	1951	1952
	\$	\$
Logs and bolts.....	316,027,115	304,262,790
Pulpwood.....	381,920,846	396,102,104
Fuelwood.....	50,521,011	61,355,643
Hewn railway ties.....	612,583	1,292,636
Poles.....	13,249,988	16,961,456
Round mining timber.....	6,420,818	19,917,669
Fence posts.....	2,920,922	3,432,675
Wood for distillation.....	466,491	441,443
Fence rails.....	671,491	758,519
Miscellaneous.....	9,713,750	11,126,259
Totals.....	782,525,015	815,651,194

Domestic utilization of primary forest products runs at about 92 p.c. of the total output. Practically all logs, bolts and fuelwood produced are used within the country as well as between 80 and 90 p.c. of the pulpwood.

Lumber.—In 1952 the lumber industry led all other manufacturing industries in total employment, placed second in total wages and salaries paid and fourth in net value of products. The number of active sawmills was 8,283. These mills are widely distributed across the country—wherever merchantable trees grow and markets have been developed for lumber products. Most of the larger mills are in British Columbia where the handling of large trees requires specialized and massive mechanical equipment that, in turn, necessitates the building of permanent mills employing large staffs and



Sawmill at Port Arthur, Ont.

operating throughout the year. In contrast, the smaller trees of eastern forests make it economically feasible to build smaller and comparatively inexpensive mills that generally operate in the summer and autumn seasons.

Production of Sawn Lumber and All Sawmill Products, 1952

Province or Territory	Sawn Lumber Production		Total Sawmill Products
	'000 ft. b.m.	\$	\$
Newfoundland.....	55,100	3,469,111	3,743,603
Prince Edward Island.....	9,437	498,948	578,047
Nova Scotia.....	296,915	18,101,419	20,162,764
New Brunswick.....	259,906	17,273,232	20,816,235
Quebec.....	1,093,862	75,064,381	89,264,991
Ontario.....	840,484	65,325,145	83,158,216
Manitoba.....	61,052	4,001,844	4,207,534
Saskatchewan.....	78,478	4,518,638	4,857,183
Alberta.....	409,570	21,457,863	23,862,564
British Columbia.....	3,696,459	272,860,148	316,723,587
Yukon and Northwest Territories.....	6,331	624,594	648,424
Canada.....	6,807,594	483,195,323	568,023,148

The 1952 gross value of \$568,023,148 includes the following commodities: sawn lumber (\$483,195,323); shingles (\$19,269,747); sawn ties (\$18,516,170); processed pulpwood (\$10,867,068); box shooks (\$3,754,004); spoolwood

(\$2,448,653); flatted mine timbers (\$1,861,355); staves (\$1,457,340); lath (\$1,237,227); pickets (\$495,780); heading (\$556,691); and other wood products and by-products (\$24,363,790).

Over 49 p.c. of the sawn lumber produced in 1952 was exported and the remainder was used in Canada for structural work and by wood-using industries.

Pulp and Paper.—The production of pulp and its conversion into newsprint, other papers and paperboard is one of Canada's major manufacturing enterprises. This industry ranks first in gross and net value of products and in wage and salary distribution, and is second only to sawmills in employment. Its growth has been particularly marked since the end of World War II: pulp production has risen from 5,600,814 tons in 1945 to 9,077,063 tons in 1953, and the output of paper and paperboard has advanced from 4,359,576 tons to 7,376,526 tons during the same period.

Over one-fifth of the total pulp production is exported, and in this respect Canada leads all other countries. Such exports, consisting largely of the more expensive grades of chemical pulp, move chiefly to the United States market and in 1953 totalled 1,950,152 tons valued at \$248,674,880. Newsprint is the principal product made from the pulp retained in this country. Canada contributes more than half of the total world output of newsprint and for many years has been the largest exporter of this commodity, supplying more than four-fifths of the world's exports. Newsprint production in Canada has increased steadily since the end of the War, reaching new heights each year—from 3,324,033 tons in 1945 to 5,755,471 tons in 1953. Exports have shown corresponding gains, rising from 3,058,946 tons to 5,375,251 tons. Newsprint exports were valued at \$619,033,394 in 1953, over 90 p.c. going to the United States.

One-quarter of Canada's paper production comprises paperboard, fine papers of all kinds, wrapping paper, and various types of building paper and boards. While newsprint, like pulp, generally moves freely in world markets without tariff restrictions, these other grades of paper and of paperboard have been shut out of many markets abroad by tariffs; the mills producing these grades operate mainly to meet domestic requirements.

Several trends are noticeable in the pulp and paper industry. Increased capacity and production have been largely the result of technological improvements, such as the speeding-up of paper machines. The use of wood-waste in the making of pulp is increasing and some of the new pulp mills in British Columbia depend entirely on the by-products of sawmills, such as slabs and edgings, for their operation. Research has developed new pulping methods which give greater yields and also make possible the utilization of hardwood species in ever-increasing volume.

In recent years, the growth of the industry has been westward. Several new mills have been built in British Columbia, and Alberta's first pulp and paper mill recently came into production. Although the industry is still concentrated in the Provinces of Quebec and Ontario, it accounts for an important share of the industrial activity in Newfoundland, New Brunswick, Nova Scotia and Manitoba. There are no pulp and paper mills in Prince Edward Island and Saskatchewan but both provinces supply pulpwood to mills located elsewhere.

Canada's leading single industry is newsprint manufacturing and, with the exception of Prince Edward Island and Saskatchewan, every province shares in the production of this universally required commodity.

Ocean Falls, B.C.



The effect of such an industry on Canadian commerce as a whole is perhaps best illustrated by its relationship with two fundamentals in the economy—power and transportation. In the first, pulp and paper accounts for a third of all the power consumed by all industry in Canada; and, as far as the railways are concerned, one of every nine revenue freight cars loaded in Canada is loaded with pulp, paper or pulpwood.

**Principal Statistics of the Pulp and Paper Industry, 1930, 1940,
1952 and 1953**

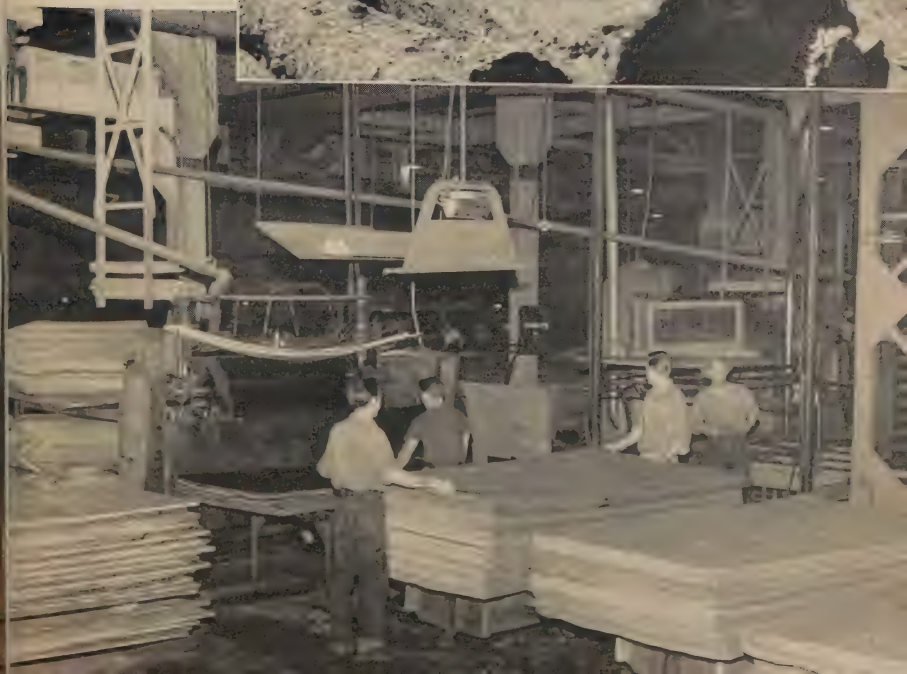
Item	1930	1940	1952	1953
Establishments.....No.	109	103	128	127
Employees.....“	33,207	34,719	57,803	58,194
Salaries and wages.....\$	45,774,976	56,073,812	225,353,327	235,741,660
Gross value of products...\$	215,674,246	298,034,843	1,157,887,657	1,179,665,443
Net value of products...\$	107,959,927	158,230,575	584,101,072	599,934,934
Pulp produced.....tons	3,619,345	5,290,762	8,968,009	9,077,063
“	112,355,872	149,005,267	650,021,180	624,865,504
Paper produced.....tons	2,926,787	4,319,414	7,201,800	7,376,526
“	173,305,874	225,836,809	838,105,108	887,858,473
Pulp exported.....tons	762,220	1,068,516	1,940,582	1,950,152
“	39,059,979	60,930,149	291,863,498	248,674,880
Newsprint exported...tons	2,332,510	3,242,789	5,327,430	5,375,251
“	133,370,932	151,360,196	591,790,209	619,033,394

Paper Production, by Province and Type, 1951-53

Province and Type	1951		1952		1953	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
Quebec—						
Newsprint.....	2,884,877	290,191,574	2,968,627	310,734,055	2,961,997	323,660,876
Book and writing..	84,140	24,997,828	71,534	21,764,740	75,949	22,496,508
Wrapping.....	148,849	27,428,551	130,365	25,624,071	138,384	27,389,223
Paper boards.....	297,177	33,530,407	260,671	31,034,164	279,217	32,427,949
Tissue paper.....	28,096	7,219,406	25,271	6,196,443	24,200	5,345,901
Other paper.....	68,530	6,186,727	58,725	5,309,906	63,240	5,184,687
Totals, Quebec..	3,511,669	389,554,493	3,515,193	400,663,379	3,542,987	416,505,144
Ontario—						
Newsprint.....	1,285,925	133,024,418	1,296,793	136,953,546	1,297,687	144,359,672
Book and writing..	168,941	38,792,431	153,149	35,698,881	170,083	38,899,082
Wrapping.....	66,741	15,055,396	56,533	13,751,679	61,894	14,979,801
Paper boards.....	442,490	51,424,489	408,038	47,938,021	434,733	51,984,621
Tissue paper.....	36,647	9,891,921	31,526	8,488,643	37,178	10,027,913
Other paper.....	18,491	3,729,956	17,364	3,384,944	17,268	3,158,789
Totals, Ontario..	2,019,235	251,918,611	1,963,403	246,215,714	2,018,843	263,409,878
British Columbia..	513,165	59,763,061	540,140	62,261,263	632,556	74,131,677
Nova Scotia, New Brunswick, Manitoba and Newfoundland..	1,181,202	122,793,484	1,183,064	128,964,752	1,182,140	133,811,774
Canada—						
Newsprint.....	5,561,115	564,361,193	5,707,030	600,515,960	5,755,471	633,408,019
Book and writing..	253,081	63,790,259	224,683	57,463,621	246,513	61,451,545
Wrapping.....	257,332	49,664,005	222,529	45,356,720	238,111	49,028,911
Paper boards.....	960,493	113,469,950	874,582	106,066,622	948,955	114,978,277
Tissue paper.....	89,583	21,574,730	79,974	18,620,728	86,523	19,198,013
Other paper.....	103,667	11,169,512	93,002	10,081,457	100,953	9,793,708
Grand Totals..	7,225,271	824,029,649	7,201,800	838,105,108	7,376,526	887,858,473

Wood-Using and Paper-Using Industries.—In 1952 the industries producing furniture, finished lumber, sash and doors, and veneers and plywoods yielded over 79 p.c. of the net value of production for the wood-using group, which amounted to \$272,829,694. Net value of production of the smaller group of industries producing paper boxes and bags, roofing paper and miscellaneous products such as wallpaper amounted to \$152,116,070.

Softwood plywood is produced almost solely in British Columbia. Douglas fir is most commonly used because of the availability of large-diameter logs of this species from which large sheets of clear veneer can be obtained.





Iron ore being loaded from stockpile into ore cars for transportation to the docks at Sept-Iles, Que. In 1950 a small coastal steamer shipped into Sept-Iles and put ashore a bulldozer which cleared the brush for a construction camp. Since then, one of the most difficult railway construction jobs ever undertaken in Canada has been completed, a seaport has been built, two hydro plants constructed and two townsites laid out. Ore started moving out in mid-summer 1954.

Mines and Minerals

CANADA'S large and varied mineral estate has been clearly manifested by discoveries and developments in the past fifteen years—especially since World War II. Stimulated by a generous influx of post-war investment capital, rising metal prices, and a number of new developments, the mining industry attained the one-billion-dollar mark in value of production in 1950, and increased that value by one-third in 1953. After the discovery of the Leduc field in 1947, crude petroleum began to play an increasingly important part in the mineral picture, and in the year 1953 topped all other minerals in value of production. However, with the major exceptions of coal and gold, practically all branches of mining shared in the post-war expansion.

The importance of Canada's mineral progress lies not only in its production of primary materials but in the vast industrial network needed to process, manufacture (in varying degrees), and market the primary materials. Canada's mines help maintain the country's international balance of payments through exports, help diversify and stabilize the pattern of the economy, and provide a livelihood for hundreds of thousands of the population.

Only some of the highlights of the Canadian mining story in 1954 can be given here. They take no account of the multitude of smaller or related operations, new ventures, reactivation of older mine workings, the reconstruction of existing mine facilities to allow more efficient operation or development of additional orebodies.

Metals.—Probably the most notable development during 1954 was the ship loading at Sept-Iles of iron ore from the Quebec-Labrador deposits on July 31. Before the season closed, the shipments were expected to reach 2,000,000 tons of ore—just double the original estimate. The importance of the Quebec-Labrador region as a source of iron ore was further stressed by the discovery of large deposits west of Ungava Bay and in the extreme southwest portion of Labrador, near Wabush Lake.

A high level of iron ore activity was also maintained in Ontario. Expansion under way in the Steep Rock and Michipicoten areas in the northwestern part of the Province has been designed to greatly increase production within the next few years, and the Marmoraton property in southeastern Ontario is in initial production. An important iron-ore industry is also taking shape on the west coast, on Vancouver and Texada islands.

Highlight of metal-mining activity in the Maritimes during the year was the proving of one of Canada's largest base-metal orebodies—a zinc-copper-lead-silver complex—near Bathurst, N.B. Announcement of the original discovery early in 1953 started a great staking rush and opened up a new economic vista for the Province, which has had little metal production of consequence. Two major new orebodies were discovered later in the year within a five-mile radius of the original discovery and, late in 1954, another large deposit of high-grade lead-zinc-silver ore was located at Little River, about 30 miles northwest of Newcastle.

Several other significant base-metal developments in 1954 might be noted. In the Gaspé Peninsula of Quebec, a 70,000,000-ton low-grade copper

orebody was being developed towards production early in 1955. In the same Province, the copper-gold deposits of the Chibougamau region were being actively developed. The region was linked by highway with the Lake St. John area, and construction of a branch railway line started. In the northern portion of British Columbia, two important copper orebodies were outlined.

In Ontario, the International Nickel Company had nearly completed a \$150,000,000 expansion and development program which is expected to increase the present annual capacity of 250,000,000 lb. of nickel by 25,000,000 lb. The nickel deposits of the Sudbury Basin are now the source of some 70 p.c. of the world output of nickel. A widespread search for uranium deposits in Ontario resulted in a number of stakings in 1954, chiefly in the Lake Huron, North Bay and Haliburton-Bancroft areas. Two properties in the Blind River district were being prepared for production.

Late in 1953, a copper-zinc-silver deposit that is proving to be one of the largest yet located in Canada was discovered in the Manitouwadge area, some 40 miles northeast of Heron Bay on Lake Superior. A major staking rush developed, and construction started on two railway branch lines and a highway which will link the area with existing transportation facilities.

During 1954, Saskatchewan and Manitoba, hitherto minor metal producers, came rapidly to the forefront in Canadian mineral production. Nickel and increased amounts of copper were added to Manitoba's metal output by the commencement of production at the Lynn Lake mine following one of the most ingenious feats ever performed in the history of Canadian mining—dismantling a whole town and equipment of a mine and their removal to a new mining site nearly 150 miles away.

Saskatchewan is now a leading producer of uranium ore. In the Beaverlodge area of northern Saskatchewan exploration and development activity in the search for uranium reached new levels in 1954. This field now extends from the Alberta boundary eastward for about 80 miles along the north side of Lake Athabasca.

Industrial Minerals.—In 1954, development, expansion and investment were all active in the field of industrial minerals—still the fastest-growing branch of the mineral industry. The construction industry, with work in progress valued at \$4,750,000,000, is largely responsible for this activity, but the rapidly expanding chemical industry runs a close second. Canada's leading position as a producer of asbestos has been greatly improved by extensive mill construction and by the discovery of new deposits. A new mill at Asbestos, Que., is capable of handling more than 15,000 tons of rock daily and will turn out about one-third of the world output.

Canada possesses no deposits of elemental sulphur, but is nevertheless producing increasingly large tonnages of sulphur from smelter gases, 'sour' natural gas, and the roasting of iron pyrite and nickeliferous pyrrhotite. In 1954, production reached a new high.

Production from Canada's one rock-salt mine near Malagash, N.S., will be joined in 1955 by output from a new mine at Ojibway, Ont. Also a large deposit of very pure material has recently been discovered not far from the Malagash mine. One of the largest potential sources of lithium has been under intensive examination in the Val d'Or-Amos region of Quebec where

IRON-ORE PRODUCTION



▲
The Marmora field in southeastern Ontario
will start production early in 1955 with
100,000 tons of concentrate a year.

►
A high degree of mechanization features all
Canadian iron mining. At Wabana, Nfld.,
ore loading and transfer is effected with
relatively small use of manpower.



◀
The new open pit known as Hogarth,
together with the new Errington
underground mine, doubles the iron-
ore producing capacity at Steep
Rock, Ont.

Canada's iron ore production has
tripled since the end of the War to
the 7,000,000-ton level. When
extensions and projects at present
under construction are completed,
production will reach between
25,000,000 and 30,000,000 tons
annually.



Weasels pulling trailers loaded with supplies move along muskeg road, a seismic party camp in the uncharted search for oil in Canada's northwest.

a 1,000-ton mill is in course of construction and rich deposits of potash in Saskatchewan are being examined with a view to production.

Fuels.—Extensive recent discoveries have created a phenomenal expansion in proven and probable oil reserves and output, and a vast potential in reserves of natural gas, with all four western provinces sharing in the advance. Because of present market limitations, the yield of the various producing fields does not wholly reflect oil-well capacities but much progress was made in 1954 toward extending marketing facilities by the planning and construction of new refineries and pipelines. Progress was also made in planning for the transportation of natural gas, particularly from Alberta, and authorization was given for the construction of an all-Canadian pipeline to be built across the prairies to Winnipeg thence eastward north of the Great Lakes to serve Ontario and western Quebec. Building this pipeline will entail an expenditure of hundreds of millions of dollars on development wells to produce the gas, processing plants to purify it, gathering lines to collect it, trunk lines to transport it and distribution lines to market it in prairie and central Canada towns and cities. There is only a local market at present for the known reserve of 3,949,000,000,000 cu. feet of gas in the Peace River area of northern British Columbia and Alberta but a plan to build a pipeline from the area to Vancouver and northwestern United States is under consideration.

Mineral Production in 1954

New records were established by the mineral industry in Canada during 1954. The estimated value of production for the year reached \$1,454,000,000, a figure \$118,000,000 or 8.8 p.c. above the 1953 total, and three times the 1944 total. All provinces contributed to the increase and each classification—metals, non-metallics, fuels and structural materials—reached a new high. The most outstanding gain, which amounted to \$45,000,000, was in the value of crude petroleum production. Copper was up \$23,000,000, nickel \$20,000,000 and asbestos \$7,000,000. On the other hand, coal and zinc each declined by \$7,000,000.

Metals, which make up about half the value of mineral production, increased 7·6 p.c. in 1954 over 1953. Settlement early in the year of strikes in the gold mining areas permitted the mines to resume production and the output therefore increased although the price per ounce was lower than in 1953. Copper production, which amounted to nearly 300,000 tons, was encouraged by the demand which maintained the price at a fairly high level. Iron ore shipped amounted to 7,300,000 tons, a new high in Canadian output. Shipments from the new iron mines in New Quebec and Labrador counter-balanced lessened exports from elsewhere in Canada to United States steel plants in the Great Lakes area.

Mineral fuels increased nearly 13 p.c. in value over 1953 and crude petroleum continued to lead all other minerals in value of production. Alberta increased production by 11,000,000 bbl., but the greatest percentage gain was shown by Manitoba whose output of 2,000,000 bbl. was three times the previous year's production. Natural gas production, at 122,800,000,000 cu. feet, was also up. Conversion to diesel fuel of coal-burning equipment by railroads and industry is adversely affecting the coal-mining industry and 1954 production declined 22·5 p.c. from the 1950 high of 19,100,000 tons.

The greater portion of the value of other non-metallic minerals, amounting to nearly \$137,000,000, was derived from the sale of 966,900 tons of asbestos valued at \$93,000,000, a new high in quantity and value. Salt and sulphur also increased in value and there was a greater tonnage of fluorspar and sodium sulphate shipped. The value of structural materials produced followed its upward trend as a result of continued activity in construction.

New mine and townsite at Lynn Lake, Man. Diesel locomotives are now hauling the mine's nickel concentrate to a new refinery at Fort Saskatchewan, Alta. The copper concentrate goes to Noranda, Que., for processing.



Quantities and Values of Minerals Produced, 1953 and 1954

NOTE.—Excludes data on radioactive minerals.

Mineral		1953		1954 ^p	
		Quantity	Value	Quantity	Value
			\$		\$
Antimony.....	lb.	1,488,105	291,862	1,201,000	321,150
Bismuth.....	"	117,366	209,557	272,700	583,174
Cadmium.....	"	1,118,285	2,236,570	1,027,221	1,746,276
Cobalt.....	"	1,602,545	4,013,077	2,181,900	5,593,200
Copper.....	"	506,504,074	150,953,742	599,851,280	174,139,274
Gold.....	oz. t.	4,055,723	139,597,985	4,279,852	145,814,558
Indium.....	"	6,752	9,588	—	—
Iron ore.....	ton	6,509,818	44,102,944	7,280,256	46,758,382
Iron ingots.....	"	107,370	4,064,039	90,885	2,939,144
Lead.....	lb.	387,411,588	50,076,822	442,542,820	58,990,957
Magnesium and calcium.....			5,295,840	—	4,576,024
Molybdenite.....	lb.	323,907	215,527	875,000	534,000
Nickel.....		287,385,777	160,430,098	319,983,340	180,196,300
Palladium, iridium, etc.....	oz. t.	166,018	7,495,409	176,528	7,494,809
Platinum.....	"	137,545	12,550,981	149,145	12,505,758
Selenium.....	lb.	262,346	1,101,854	368,800	1,844,000
Silver.....	oz. t.	28,299,335	23,774,271	31,541,757	26,261,667
Tellurium.....	lb.	4,694	8,215	7,200	12,600
Tin.....	"	1,092,228	581,746	390,000	226,200
Titanium ore.....	ton	9,294	80,085	7,500	17,312
Tungsten.....	lb.	2,446,028	5,689,160	2,000,732	3,596,387
Zinc.....	"	803,523,295	96,101,386	747,718,334	89,277,569
TOTALS, METALLICS.....		...	708,880,758	...	763,428,741
Coal.....	ton	15,900,673	102,721,875	14,825,000	96,078,000
Natural gas.....	M cu. ft.	100,985,923	10,877,017	122,854,500	12,683,200
Petroleum, crude.....	bbl.	80,898,897	200,582,276	95,480,100	245,995,500
TOTALS, FUELS.....		...	314,181,168	...	354,756,700
Arsenious oxide.....	lb.	1,403,740	56,150	443,900	18,800
Asbestos.....	ton	911,226	86,052,895	966,883	93,079,931
Barite.....	"	247,227	2,220,292	222,519	2,160,469
Diatomite.....	"	103	12,150	104	12,168
Feldspar.....	"	21,246	347,164	15,439	307,741
Fluorspar.....	"	88,569	2,670,585	120,078	3,011,938
Graphite.....	"	3,466	366,528	1,626	165,000
Grindstones.....	"	15	900	15	2,100
Gypsum.....	"	3,841,457	7,399,884	3,957,268	7,054,036
Iron oxides.....	"	10,308	195,801	5,799	181,073
Magnesitic dolomite, brucite.....			3,056,392	—	4,008,678
Mica.....	lb.	2,265,128	161,128	1,503,229	90,479
Mineral waters.....	gal.	309,585	165,484	310,000	165,150
Nepheline syenite.....	ton	113,345	1,576,271	120,484	1,740,000
Peat moss.....	"	81,654	2,643,019	87,257	2,986,961
Perlite.....	"	1,112	11,120	—	—
Quartz.....	"	1,785,574	2,070,617	1,742,951	1,589,254
Salt.....	"	954,928	6,974,501	962,458	8,506,929
Silica brick.....	M	3,720	712,271	2,143	474,635
Soapstone and talc.....	ton	27,408	285,755	25,691	301,958
Sodium sulphate.....	"	115,565	1,681,258	165,521	2,547,586
Sulphur.....	"	358,850	3,172,698	503,237	4,540,463
Titanium dioxide.....	"	100,527	4,206,496	82,386	3,680,077
TOTALS, OTHER NON-METALLICS.....		...	126,039,359	...	136,625,426
Clay products.....	bbl.	...	29,777,731	...	31,520,243
Cement.....	bbl.	22,238,335	58,842,022	22,552,788	59,405,097
Lime.....	ton	1,228,760	14,484,013	1,217,343	14,333,152
Sand and gravel.....	"	101,033,949	53,485,401	105,430,550	56,884,521
Stone.....	"	19,849,017	30,613,051	34,212,319	37,242,580
TOTALS, STRUCTURAL MATERIALS.....		...	187,202,218	...	199,385,593
Grand Totals.....		...	1,336,303,503	...	1,454,196,460

Provincial Distribution

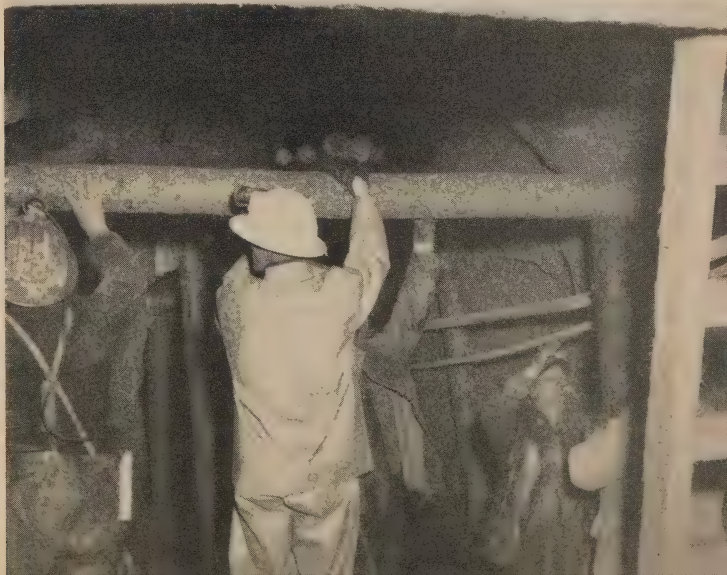
An analysis of the provincial distribution of mineral production, from east to west, shows that *Newfoundland*, which accounted for 3.1 p.c. of the total estimated value of Canada's mineral output for 1954, was credited with over half the Canadian production of iron ore, output having been increased by about 1,000,000 tons as a result of first shipments from the Labrador orebodies. The Province also produces considerable quantities of zinc, lead and copper and all of Canada's fluorspar, as well as smaller quantities of silver, gold, gypsum, cement and other structural materials. The level of production for these items was about the same in 1954 as in 1953.

Nova Scotia's main contribution to the mineral industry is coal, which accounts for about 70 p.c. of the Province's total value of mineral output and about half of the Canadian value of coal production. The Province is Canada's leading producer of barite and gypsum and operates important salt mines and recovery wells. Its output of base metals increased somewhat in 1954 but most of the advance recorded in the Province's total value over 1953 was accounted for by the output of large quantities of gravel required for the construction of the Canso Causeway.

New Brunswick's small mineral production in 1954 was made up mostly of coal, gas and petroleum, and cement and other structural materials. The discovery of lead-zinc ores in the Bathurst area of the Province has created great activity during the past two years and at the end of 1954 one metal mine was ready to produce.

The estimated value of metals produced in *Quebec* in 1954 was over \$126,000,000. This was the value of twelve metals, ranging from bismuth to zinc. Iron ore was added to the list for the first time, with the 667,000 tons from New Quebec shipped through Sept-Iles. Copper was the most important of the metals, output exceeding 80,000 tons valued at \$48,000,000. Zinc

Mine crew placing pit props at the 300-ft. level in the base-metal development at Bathurst, N.B.



production was over 105,000 tons, remelt iron over 90,000 tons and lead 8,500 tons. Production of both gold and silver increased to 1,095,000 oz.t. and 5,083,000 oz.t., respectively. The major part of the world's asbestos comes from Quebec and the value of shipments of that mineral in 1954 was \$79,000,000. Other important non-metallics included magnesitic dolomite for basic refractories, titanium dioxide which is used as a pigment in paints, paper, etc., and sulphur in the form of pyrite recovered by the base-metal mines during the milling of sulphide ores. Structural materials were in great demand during the year and a high level of output was maintained.

In 1954, *Ontario* produced 33.4 p.c. of the total value of Canada's mineral output and more than 50 p.c. of the metal output. Metals make up by far the largest part of the mineral output of the Province which in 1954 produced all of Canada's cobalt, magnesium and calcium, platinum metals and tellurium, 98 p.c. of the nickel and approximately half of the copper and gold. Ontario also produced about 40 p.c. of the structural materials, the value of cement and clay products increasing over 1953. The Province's output of natural gas and petroleum also showed some advance.

Manitoba's mineral output was highlighted in 1954 by an advance in crude petroleum production to three times that of 1953, although the aggregate for this Province is still below Saskatchewan and, of course, Alberta. The value of metals produced increased by \$5,000,000 as a result of the commencement of production from the Lynn Lake mine from which nickel concentrates were shipped to the new refinery at Fort Saskatchewan, Alta., and copper concentrates to custom smelters.

Most of *Saskatchewan's* metal production is obtained from the ore deposits that lie astride the Saskatchewan-Manitoba border; production of copper, zinc, gold, silver and selenium all increased in 1954. All natural sodium sulphate produced in Canada comes from this Province. Many new oil wells were brought in during the year, increasing the value of oil production of the Province from \$3,800,000 to \$8,250,000, and exploration and development work on the uranium properties in the north was very active.

The expanding petroleum industry brought *Alberta* to second place among the provinces in mineral production. Of the total output of \$281,000,000, crude petroleum accounted for \$230,000,000, and coal, natural gas and crude petroleum together for \$265,000,000. Structural materials made up most of the balance. Conversion to other types of fuel has had a depressing effect on coal production which dropped 1,000,000 tons from the 5,900,000 tons produced in 1953.

The greater part of *British Columbia's* mineral output is made up of metals, the 1954 value of which declined by \$6,500,000 from the 1953 total. Decreases in zinc, tungsten, iron ore, tin, gold, cadmium and antimony were partially counteracted by increases in copper, lead, bismuth and silver. Total mineral production for the Province increased by nearly \$3,000,000, accounted for mainly by increases in the production of asbestos, barite, peat moss and sulphur. Coal was down slightly and structural material remained about the same as in 1953.

Ore being hauled through the main adit of the new Gaspé Copper mine at Murdochville, Que.



Base metals, gold and coal make up the mineral production of *Yukon Territory* and most items were up slightly from 1953. In the *Northwest Territories*, the minerals produced include gold, silver, natural gas and petroleum; increased quantities of gold and oil accounted for a 1954 advance in total production.

Mineral Production, by Province, 1952-54

NOTE.—Excludes radioactive minerals.

Province or Territory	1952		1953		1954 ^P	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$		\$		\$	
Newfoundland.....	32,512,313	2.5	33,780,622	2.5	44,868,679	3.1
Nova Scotia.....	64,552,383	5.0	67,364,408	5.0	75,121,224	5.1
New Brunswick.....	11,298,960	0.9	11,663,618	0.9	12,514,857	0.9
Quebec.....	270,483,962	21.0	251,881,781	18.8	275,140,830	18.9
Ontario.....	444,669,412	34.6	465,877,093	34.9	484,992,796	33.4
Manitoba.....	25,105,045	2.0	25,264,112	1.9	34,952,541	2.4
Saskatchewan.....	49,506,094	3.9	48,081,970	3.6	56,977,794	3.9
Alberta.....	196,811,654	15.3	248,863,295	18.6	281,461,638	19.4
British Columbia....	170,071,244	13.2	158,487,812	11.9	161,309,212	11.1
Northwest Territories	8,944,835	0.7	10,300,230	0.8	10,548,781	0.7
Yukon Territory....	11,386,451	0.9	14,738,562	1.1	16,308,108	1.1
Totals.....	1,285,342,353	100.0	1,336,303,503	100.0	1,454,196,460	100.0



Pacific Coast catches of salmon and halibut in 1954 showed the results of the long-term international conservation programs of the Canadian and United States Governments. The fishways built in the Fraser River cost \$1,000,000, but paid for themselves in one day's fishing at the peak of the salmon run in 1954. That year, also, Canadian and American fishermen caught 70,000,000 lbs. of halibut, a remarkable achievement when it is considered that halibut stocks in other parts of the world are in the decline.

Fisheries

CANADA is one of the main fish-producing and fish-exporting countries of the world.

The yearly catch amounts to some 1,900,000,000 lb. and, as the average consumption of fish products by each Canadian is less than 14 lb. a year, over 90 p.c. of the production is marketed outside the country, most of it in the United States. The marketed value of fish and fishery products in 1954 was estimated at about \$189,000,000.

The best known commercial species are the Pacific Coast salmon, herring and halibut; the Atlantic Coast cod and lobster; and the inland whitefish and lake trout. Also important on the Atlantic Coast are those species, of which cod is one, known as groundfish—haddock, pollock, hake, cusk, rosefish, halibut, plaice, yellowtail, witch, flounders and skate. Shellfish include the clam, oyster and the scallop. "Sardines" (immature herring) are a New Brunswick specialty.

The fishing industry is expending considerable capital for fuller utilization of the resources of coastal and inland waters. The West Coast fisheries have been highly organized for some time and on the Atlantic Coast the conversion to more modern methods of processing and marketing has been very marked in recent years. This continued plant expansion and modernization is expected to have the effect of intensifying the efforts of the fishermen. The clear distinction of past years between offshore and inshore fisheries on the East Coast is gradually disappearing with the use of larger craft by the inshore fishermen who are now ranging farther out to sea.

Much greater attention is being given to fishing-boat design generally. Canada's present fishing fleets, operating from the coastal fishing centres and from the shores of inland lakes, are even now very effective in handling large catches. Most of the larger boats are equipped with radar, echo sounders, ship-to-shore communication and mechanical means of harvesting an assorted catch. Multi-purpose vessels, capable of varying fishing techniques, are now fishing alongside the more conventional types of craft.

*Newfoundland fisherman—
one of the thousands of
Canadians occupied in
gathering a share of the
great wealth of the coastal
and inland waters.*





The Department Fisheries now use helicopters in the far north where exposed coastlines, rugged climate and the lack of means of transportation make inspection and protection duties very difficult.

The Federal Department of Fisheries, which administers all the tidal fisheries of Canada (except those of Quebec) and certain of the fresh-water fisheries, is responsible for the conservation and development of the country's fishery resources and has, throughout the years, been working to ensure a continued livelihood for those engaged in the industry. The functions of the Department include the inspection of fish products which must meet certain standards of quality, and the education of consumers to create a greater utilization of Canada's fishery products on the home market. Since the summer of 1953, Canada's fishermen have been assisted by the provision of insurance protection for boats and lobster traps, at a reasonable rate, through the fishermen's Indemnity Fund administered by the Department.

The *Fisheries Research Board of Canada*, which operates as a specialized departmental agency under the Minister of Fisheries, has been responsible for much new knowledge over the years in both fish catching and processing. Special studies have been undertaken where intensive fishing and the effects of industrialization have endangered fish stocks. New fishing grounds have been discovered by painstaking search and the fishermen and processors have greatly benefited by the Board's research program.

International co-operation is becoming increasingly important in the over-all picture of conservation. Fish are no respecters of boundary lines and their preservation depends on how they are treated as they pass through the waters of the countries which compete for their catch. In 1954 Canada signed her fourth bilateral treaty with the United States on fisheries conservation matters. This international agreement provides for joint action in Great Lakes fisheries research as well as in the elimination of the predator sea lamprey. The lamprey has been blamed for the decline in fisheries of these inland waters. Other Canada-United States treaties cover the Pribilof seals and the Pacific Coast salmon and halibut stocks.

A three-way treaty has been signed by Canada, the United States and Japan in an endeavour to ensure the success of conservation measures in the North Pacific Ocean. The first major step taken under the treaty was the

agger fishermen,
operating off the
coast of Nova Scotia,
stand knee deep in
the harvest just re-
leased from their nets.



adoption of a joint program of scientific research to learn more about the movements of salmon in the North Pacific and to find out whether they are of Asiatic or North American origin. Canada is also a member of the tenation International Commission for the Northwest Atlantic Fisheries which is designed to manage the fisheries of the Northwest Atlantic to avoid over-fishing and obtain maximum long-term yield.

An example of the wisdom of intelligent international management highlighted the 1954 operations of British Columbia's fishing industry which harvested one of the best sockeye runs in the Fraser River since 1913. Forty years ago the salmon runs of the Fraser were seriously affected by rock obstructions at Hell's Gate canyon. Through regulation and fishway construction carried out under international agreement, Canada and the United States have succeeded in reopening the runs. The remarkable 1954 sockeye run to the spawning grounds in the Adams River, a tributary of the Fraser, was the result of this work. Of the 9,000,000 sockeye caught this year, 8,000,000 were from the Adams River run. In September alone the catch was forty times greater than in the same month of 1953.

Restoration of the halibut stocks has also been brought about through co-operative effort by Canada and the United States. The 1954 landings of halibut, a species that faced extinction through over-fishing in the early part of the century, were unequalled since 1915.

Statistics of Fisheries Production

In Canada (exclusive of Newfoundland), 64,000 fishermen landed 1,315,000,000 lb. of fish in 1952, a 10-p.c. decrease from the total landed in 1951. The marketed value of all fish and fish products at \$149,821,000 was 15 p.c. below the figure for 1951. Most of the decrease occurred in British Columbia where the marketed value fell by 32 p.c. to \$58,098,000. Estimates for Newfoundland fisheries indicate that 575,000,000 lb. of fish with a market value of \$27,500,000 were landed in 1952. Total landings for the whole of Canada, therefore, would be approximately 1,890,000,000 lb. and the marketed value \$177,321,000.

Trends in Landings, Values of Production and Equipment, and Numbers Employed in the Fishery Industry, 1899-1952

(Exclusive of Newfoundland)

Year	Quantity Landed	Value of Production	Value of Equipment	Employees in—	
				Fishing	Fish Processing
	'000 lb.	\$'000	\$'000	No.	No.
Average 1899-1908.....	..	24,447	..	77,282	14,070
Average 1909-18.....	..	37,976	..	69,540	24,094
Average 1919-28.....	953,496	47,806	27,813	59,139	16,432
Average 1929-38.....	995,450	37,239	27,672	67,014	14,586
Average 1939-48.....	1,240,570	89,625	38,911	66,130	16,661
1949.....	1,319,958	132,306	69,543	64,613	16,087
1950.....	1,491,225	152,063	80,118	65,037	14,861
1951.....	1,452,945	175,894	92,427	65,188	16,107
1952.....	1,314,592	149,821	102,943	64,260	12,129

Preliminary figures for 1953 show landings of 701,412,000 lb. in the Maritime Provinces and Quebec, and of 500,000,000 lb. in Newfoundland. In British Columbia the catch amounted to 543,675,000 lb., a figure 34 p.c. higher than the 1952 total, but lower than the average for the post-war years.

Quantities Landed and Values of All Products Marketed, of the Chief Commercial Fishes, by Province, 1951 and 1952

(Exclusive of Newfoundland)

Province or Territory	Kind of Fish	1951		1952	
		Quantity Landed	Value of Products	Quantity Landed	Value of Products
		'000 lb.	\$'000	'000 lb.	\$'000
Prince Edward Island....	Lobsters.....	8,342	2,227	8,375	2,265
	Cod.....	4,395	227	3,452	189
	Smelts.....	849	152	622	163
Nova Scotia.....	Cod.....	147,746	12,420	149,155	12,666
	Lobsters.....	24,278	8,281	23,063	9,063
	Haddock.....	53,355	4,936	51,200	4,932
New Brunswick.....	Lobsters.....	10,565	6,360	10,379	6,538
	Sardines.....	62,503	5,604	52,887	4,466
	Herring.....	62,466	2,720	86,474	2,545
Quebec.....	Cod.....	49,844	2,452	61,156	2,866
	Lobsters.....	2,388	701	2,314	766
	Herring.....	32,739	527	47,112	628
Ontario.....	Whitefish.....	7,180	2,780	9,426	2,956
	Pickarel.....	4,025	1,181	4,670	1,259
	Blue Pickarel..	4,102	919	7,447	1,181
Manitoba.....	Pickarel.....	11,208	3,227	10,381	2,603
	Whitefish.....	6,125	1,828	5,758	1,582
	Saugers.....	4,319	1,008	4,295	752
Saskatchewan.....	Whitefish.....	5,852	987	5,639	852
	Trout.....	1,587	277	1,234	209
	Pickarel.....	1,334	266	1,175	202
Alberta.....	Whitefish.....	2,703	572	3,159	644
	Tullibee.....	4,618	184	5,428	191
	Pike.....	492	57	471	50
British Columbia.....	Salmon.....	197,594	60,750	146,965	40,495
	Herring.....	365,432	10,640	189,497	4,235
	Halibut.....	20,214	5,762	23,489	5,672
Northwest Territories....	Whitefish.....	4,580	1,457	3,831	1,247
	Trout.....	2,623	754	2,888	926
Totals.....	Salmon.....	199,396	61,719	148,659	41,568
	Lobsters.....	45,573	17,569	44,131	18,634
	Cod.....	232,439	17,463	243,150	18,111

Landings and Values of All Fishery Products, by Province, 1950-52

Province or Territory	Quantities Landed			Values of Products		
	1950	1951	1952	1950	1951	1952
	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000
Prince Edward Island	29,225	27,224	32,661	3,321	3,213	3,759
Nova Scotia.....	378,485	381,904	396,623	38,121	40,296	42,435
New Brunswick.....	239,671	227,038	254,599	18,053	21,155	20,504
Quebec.....	117,459	102,119	127,564	5,496	5,511	6,113
Ontario.....	32,755	30,969	38,044	7,034	7,925	8,344
Manitoba.....	31,468	35,457	31,338	6,791	7,524	5,960
Saskatchewan.....	8,731	11,512	10,612	1,360	1,749	1,440
Alberta.....	7,067	8,399	9,657	768	862	943
British Columbia.....	638,497	620,846	406,452	68,821	85,397	58,098
Northwest Territories	7,867	7,477	7,042	2,298	2,262	2,225
Totals.....	1,491,225	1,452,945	1,314,592	152,063	175,894	149,821

Principal Statistics of the Fish-Processing Industry, 1948-52

Year	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials Used	Selling Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
1948.....	600	16,497	17,041	1,782	74,588	115,821
1949.....	599	16,087	16,970	1,731	69,090	111,919
1950.....	591	14,861	18,722	1,773	79,959	128,424
1951 ¹	639	18,706	24,744	2,724	101,621	163,010
1952 ¹	635	17,551	24,426	2,533	86,458	134,725

¹ Includes Newfoundland.

...erring from the western end of Lake Superior awaiting the fish merchant.





Smelter at Hamilton, Ont.

Manufactures

CANADA'S growth from Confederation to World War I was characterized by geographic expansion, new settlement, and the discovery and exploitation of natural resources. Since that time, it has been a story of rapid achievement of industrial maturity. In the past generation alone, Canada has changed from a country producing and exporting mainly primary products to a country producing and exporting mainly manufactured products, until to-day, manufactures account for about 30 p.c. of the value of all goods and services produced in this country, and manufacturing is now Canada's leading employer. In 1953, more than 1,325,000 employees, in some 38,000 manufacturing establishments, earned a total of nearly \$4,000,000,000 in salaries and wages, and were responsible for a gross value of factory shipments amounting to nearly \$17,700,000,000. If the cost of materials, fuel and electricity is subtracted from the gross value of factory shipments, a net value added in manufacture is established at \$8,000,000,000.

Canada's manufacturing and industrial emergence has been—and continues to be—based on the immense natural resources and primary products of her fields, forests, fisheries and mines. The Canadian economy, historically, has been built on grain, especially wheat, on animal husbandry, on lumber, pulp and paper and minerals. To develop certain of these resources, fuels and power derived from fuels were available in abundance—and since the discovery and harnessing of electricity, Canada's magnificent sources of hydro-electric power have equipped industry with seven-league boots to take the industrial strides of the past half-century. Moreover, the far-reaching waterways, railroads and highways of Canada have enabled bulk primary and processed goods to be transported on a continental scale.

The discovery and development of new natural resources since the beginning of the century is an epic story—a story of a tremendous upsurge in the physical volume of production, aided by near-tripling of population. Even so, Canada to-day contains a mere two-thirds of one per cent of the world's population, but produces more newsprint, nickel, asbestos and platinum than any other nation; is second in world output of hydro-electric power, pulp, uranium, aluminum, gold and zinc, and third in the production of oats, silver and sawn lumber. Also the “wonder metals”—uranium, germanium, columbium and titanium—of the era of jet flight, non-corrosive alloys, and atomic power are found or produced in Canada. The nation is, however, merely at the beginning of a resource development unparalleled in her earlier history; one whose potential, only now being outlined, will require generations of purposeful effort and skill to realize.

Historical Development.—The first phase of Canada's industrial development began about 1860. Rising prosperity until 1873 resulted in the establishment of factories producing goods for local consumption from the abundance of raw materials at hand—flour and gristmill products from the grain, leather boots and shoes from the live stock, and lumber, lath and shingles from the forests. These industries weathered the depressed economic conditions that prevailed during the latter part of the 1870's and a good part of the 1880's, mainly because Canada's high-quality natural resources could

be developed at low cost, and also because the expanding railway network and cheap water transport made them increasingly accessible.

The period 1900 to 1920 was characterized by rapid population increase and the opening up of the West. The program of railway construction, the growth of cities and towns, the equipping of western farms and the extension of community facilities in both Eastern and Western Canada gave great impetus to the production of capital goods. World War I brought about a notable acceleration of industrial diversification with particularly striking effects on the refining of non-ferrous metals, the expansion of the steel industry and the shipbuilding and aircraft industries. Following the War, international competition became very keen and Canadian industries experienced some adjustment, particularly in the short though severe recession of 1921. This check was temporary and expansion was resumed up to the crest of 1929 with particular emphasis on pulp and paper, transportation equipment, non-metallic mineral products and chemicals. During this period, certain Canadian industries became competitive with those of other countries in both quality and price. One of the earliest examples was the farm implements industry and another was the pulp and paper industry, which was able to compete successfully in important foreign markets in the 1920's and still remains the leading manufacturing industry.

As a result of the depression of the 1930's when economic activity was at a low ebb, Canadian industries were unprepared for the avalanche of military orders following 1939; nevertheless, conversion to war production was accomplished in two years. Expansion of productive capacity in manufacturing during the war years was particularly striking in such fields as tool-making, electrical apparatus, chemicals and aluminum. About two-thirds of the industrial structure created during that period was found to be adaptable to peacetime uses after the War. Although reconversion necessitated large capital outlays and although supply shortages slowed down the implementation of the program, most of the basic work was completed by the end of 1947 and modernization and expansion have continued in succeeding years.

Two developments in the post-war period contributed particularly to manufacturing expansion in Canada. First, the intensive search for new minerals brought about a number of important discoveries and rapid development followed in such fields as crude oil, natural gas, iron ore, non-ferrous metals and other less important metals. This development and the resulting need for equipment for exploration and processing gave great impetus to industries producing capital goods. Further, the availability of a greater quantity and variety of indigenous raw materials led to the creation of more processing capacity and to the establishment of advanced raw-material and power-using industries. Foremost among these was the chemical industry, which became increasingly diversified. In particular, major discoveries of oil and gas made feasible the establishment of such industries in central Alberta notwithstanding the great distances to the principal markets of the North American Continent.

The second development was the commencement of a three-year, \$5,000,000,000 defence build-up, related to NATO and the outbreak of the war in Korea. Three industries in particular received great stimulus from the rearmament program: the aircraft industry, which for the first time began production of jet aircraft and jet aircraft engines; the electronics



The Consolidated Mining and Smelting Company's four-year expansion program, now nearing completion, is spectacular among many great Western Canada developments. The major part of the company's operations are in the huge metallurgical and chemical fertilizer plants at Trail, B.C. From these plants come 8 p.c. each of the world's lead and zinc and half of Canada's silver.

industry, which produced a great variety of new items, from equipment for Canada's northern radar screen to infantry pack radio sets; and the shipbuilding industry, which not only revived after several years of decline following the end of World War II but which drew increasingly on Canadian equipment-producing industries to fit out, power and arm the newly built naval vessels. A major characteristic of the expansion of Canadian manufacturing industries encouraged by the rearmament program was the adaptability of many of the new developments to civilian use. An outstanding example was the comparative ease with which a television industry was established in Canada.

Industry's Changing Pattern.—The changes in manufacturing during the present century have reflected the changing pattern of Canadian life and Canada's relations with other countries. A largely rural society in 1900, Canada has become a heavily industrial and urban society producing, at competitive world prices, high-quality foodstuffs and other consumer and capital goods for a world-wide market. The increased productivity of the Canadian worker, the development of managerial and scientific skills, and the advance in the mechanization of industry have combined to bring about the mass-production machine age in which we live. The net result of the past half-century of industrial change and the awareness of an enlightened population to the realities of common world problems has been the emergence of Canada as one of the great trading economies of the world. Canadians, as a result, enjoy a living standard, second only to that of the United States—whose earlier population growth, spurred by large-scale

immigration, swift resource development and technological advance, has placed that country's economy in premier world position. These factors are now operative in Canada, though, because of Canada's much smaller population, on a more restricted scale.

The following table shows the steady, long-term growth in Canadian manufacturing. These figures are reasonably comparable but, since they cover such a long period, allowances should be made for certain changes in information collected and in treatment of the data. In particular, in 1952, the policy was changed regarding the collection of statistics on the production of manufactured goods with the result that "gross value of production" was replaced by "value of factory shipments". The former refers to the value at the factory, at average selling value, of all goods produced, whether sold or not sold, whether shipped or not shipped. The latter reports on all sales during the year, regardless of when the products were made. Moreover, the gross figures in each series are higher than the actual contribution of industry to the economy since each firm reporting gives the value of goods leaving the factory, an amount which includes all the work put into them at earlier stages of production. For instance, the value of shipments from a clothing factory covers not only the value of the work done by that factory, but also the work done by the people who produced the raw cotton, the shippers who brought it to Canada, the spinning mills that turned it into yarn and the

Summary Statistics of Manufactures, 1870-1953

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
1870 ¹	41,259	187,942	40,851	124,908	96,710	221,618
1880 ¹	49,722	254,935	59,429	179,919	129,757	309,676
1890 ¹	75,964	369,595	100,415	250,759	219,089	469,848
1900 ²	14,650	339,173	113,249	266,528	214,526	481,053
1910 ²	19,218	515,230	241,008	601,509	564,467	1,165,976
1917 ³	21,845	606,523	497,802	1,539,679	1,281,132	2,820,811
1920.....	22,532	598,893	717,494	2,085,272	1,621,273	3,706,545
1929 ⁴	22,216	666,531	777,291	2,029,671	1,755,387 ⁴	3,883,446
1933.....	23,780	668,658	436,248	967,789	919,671	1,954,076
1939.....	24,805	658,114	737,811	1,836,159	1,531,052	3,474,784
1940.....	25,513	762,244	920,873	2,449,722	1,942,471	4,529,173
1943.....	27,652	1,241,068	1,987,292	4,690,493	3,816,414	8,732,861
1944.....	28,483	1,222,882	2,029,621	4,832,333	4,015,776	9,073,693
1945.....	29,050	1,119,372	1,845,773	4,473,669	3,564,316	8,250,369
1946.....	31,249	1,058,156	1,740,687	4,358,235	3,467,005	8,035,692
1947.....	32,734	1,131,750	2,085,926	5,534,280	4,292,056	10,081,027
1948.....	33,420	1,155,721	2,409,368	6,632,882	4,938,787	11,875,170
1949 ⁵	35,792	1,171,207	2,591,891	6,843,231	5,330,566	12,479,593
1950.....	35,942	1,183,297	2,771,267	7,538,531	5,942,058	13,817,526
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187
1952.....	37,929	1,288,382	3,637,620	9,146,172	7,443,534 ⁶	16,982,687 ⁷
1953 ⁸	—	1,325,820	3,948,039	9,327,510	8,029,322 ⁸	17,771,758 ⁷

¹ From 1870 to 1890, the figures include all establishments irrespective of the number of employees, including house building and custom and repair work. ² Includes all establishments employing 5 hands or over.

³ From 1917 on, the figures include all establishments irrespective of the number of employees, but exclude construction and custom and repair work.

⁴ From 1929 on, the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Before this, only cost of materials is deducted.

⁵ From 1949 on, the figures include Newfoundland. ⁶ Value added in manufacture (see text above).

⁷ Gross value of factory shipments (see text above).

Scrim loom manufactures fibreglass, scrim fabric for reinforcing papers and tapes. Canadian factories turn the oldest material known to man to new and amazing uses. Production has extended to include many types of insulating and textile materials as well as reinforcement for innumerable plastic products.



weaving plants that made the cloth purchased by the clothing factory. Thus, by deducting the cost of materials and the cost of fuel and electricity purchased from the gross value of production or, from 1952, the gross value of factory shipments, a net figure is obtained that gives a truer picture of the contribution to the nation's economy by the factories concerned, but still includes items contributed by such firms as insurance companies, advertising agencies and some transportation expenses.

In the interpretation of manufacturing values over a number of years, as given in the table on p. 172 variations in level of prices must be kept in mind. The record of *volume* of manufacturing production, as distinguished

Packaging aspirin tablets—
about 6,000 tins are filled
in an hour.



from *value*, is not affected by price changes and is therefore more reliable as an indication of growth of goods and services available to the consumer. In volume terms, the index of manufacturing production (1935-39 = 100) was 246.3 in 1952 as compared with 189.9 in 1946. The durable goods index stood at 294.8 and the non-durable goods at 215.2 in 1952 as against 205.1 and 180.2, respectively, in the first post-war year.

Manufacturing growth may also be measured by the proportion of earned dollars in the national income derived from manufacturing: in 1939 this proportion was 27 p.c. of the net national income at factor cost; in 1946 it was 28 p.c.; in 1950 and in 1952, 30 p.c.

National Income, by Industry, 1939, 1946, 1950 and 1952

(Millions of Dollars)

Industry	1939	1946	1950	1952
Manufacturing.....	1,164	2,782	4,471	5,421
Agriculture.....	512	1,276	1,709	2,108
Forestry.....	71	220	257	369
Fishing and trapping.....	12	78	78	62
Mining, quarrying and oil wells.....	299	302	570	724
Construction.....	148	430	809	1,002
Transportation, storage and communication, public utilities.....	508	1,105	1,489	1,887
Trade.....	590	1,411	2,163	2,575
Finance, insurance and real estate.....	426	630	1,026	1,312
Service.....	432	772	1,186	1,390
Government.....	460	1,057	1,176	1,639
Net interest and dividends to non-residents..	-249	-242	-384	-268
Net National Income at Factor Cost¹	4,373	9,821	14,550	18,221

¹ Earnings of the factors of production—wages and salaries and supplementary labour income, profits, interest, net rent and net income of agricultural and other unincorporated business.

Another useful indicator is that of investment. Though not as great as at the height of the investment boom of the 1920's, the volume of investment in manufacturing in 1952 was more than two and one-half times the 1939 level. In 1952, nearly \$972,600,000 was invested in durable physical assets in all manufacturing industries and, if repair and maintenance investment is added, the total was nearly \$1,431,300,000.

Factors contributing to the large expansion in investment in the manufacturing industries in the post-war years were the substantial increases in profits and almost continuously rising prices of manufactured goods. This was a result of strong consumer demand—pent-up during the war years—for a variety of consumer and capital goods, and reasonably firm foreign demand for processed goods, and machinery and equipment.

In recent years, Canadian manufacturing has taken on not only new volume but also new variety. Many industries have rounded out their operations and the more fully integrated operation has become common. Firms—in chemicals, for example—which started out merely to sell a particular line of products have added the actual manufacture of the goods to their operations and, often, have proceeded to add related lines of manufacture. Industries—as in the field of electrical appliances—have increased the range of the commodities manufactured so as to take advantage of the market for subsidiary or complementary products and better to meet fluctuating demand

centrifugally cast stainless steel rings for jet aircraft. Increased production of jet-powered aircraft has created an accelerating demand for heat resisting alloys, a demand being met largely by Canadian suppliers.



for the various products produced. Greater emphasis has been placed on the use of domestic materials, and the better utilization of materials formerly wasted. For instance, in some areas, woods operations have been integrated with sawmilling and pulp- and paper-making, resulting in more efficient use of raw materials. At chemical pulping plants enormous quantities of sulphite liquor containing the lignin portion of pulped wood were turned to waste, but nowadays a limited quantity is being converted for use; in some plants this liquor is dried to render it suitable for burning as a fuel at the plant and in a few others the liquor is converted to industrial alcohol. Inevitably, in the process of paper-making some pulp is discarded as unsuitable; this is now usually converted to cardboards and building boards.

Other Canadian industries—notably in the metallurgical, chemical and electronic fields—have made rapid technological advances in the post-war period and, as a result, many new materials, substances (such as synthetic yarns) and commodities are being marketed. New items added recently to Canada's list of manufactured products include jet aircraft and engines, diesel locomotives, roller bearings, a wide range of automobile parts, and various kinds of heavy machinery and equipment.

Current Trends.—The gross value of production of the manufacturing industries continued its upward trend in 1952, reaching \$16,983,000,000, a 3·6-p.c. increase over 1951. Part of the 1952 advance in value was accounted for by an increase of 2·2 p.c. in the physical volume of production and the balance by price increases. Accompanying the rise in output was an increase of 2·4 p.c. in the number of persons employed and of 11·0 p.c. in the amount of salaries and wages paid. Salary and wage payments at \$3,638,000,000 were the highest on record and exceeded the previous high reported in 1951 by \$361,000,000. In 1952, 2,397 establishments, each with a production of over \$1,000,000, contributed 78 p.c. of the value of the total output of all manufacturing establishments in Canada. Total investment in fixed assets in manufacturing amounted to \$5,253,400,000 or \$4,078 per employee. Seventy-six establishments employed more than 1,500 persons, the two largest employing more than 12,000 each. Out of every 1,000 persons employed in manufacturing, one-fifth were classed as salary-earners and the remainder as wage-earners. Of these groups, the wage-earners had reached an average annual wage corresponding to 75 p.c. of the average annual salary paid;

in money terms, the average wage amounted to \$2,647 and the average salary to \$3,513. Out of a total of approximately 1,288,000 employees in manufacturing, females numbered just over 290,000. The average work week was 42.6 hours for the wage-earner, and 39.4 for the salaried employee.

No definite production trend was established in 1952. Although the durable goods industries as a unit operated at a higher level than the consumer industries, both divisions reported advances and declines. In the durable goods sector the transportation equipment group reported the greatest advance in production followed by non-metallic mineral products and electrical apparatus and supplies. The iron and steel products group was practically unchanged while the wood group and non-ferrous metal products declined. In the non-durable goods sector the greatest increase in production was reported by the tobacco group followed by leather products, petroleum and coal, foods and beverages, clothing and chemicals and allied products. Declines were shown by textiles (except clothing), rubber products, paper products and printing, publishing and allied industries.

Leading Industries.—The extent to which the manufacturing industries of Canada are based on the country's vast natural resources is shown in the table on p. 178 giving principal statistics for the fifteen leading industries in 1952.

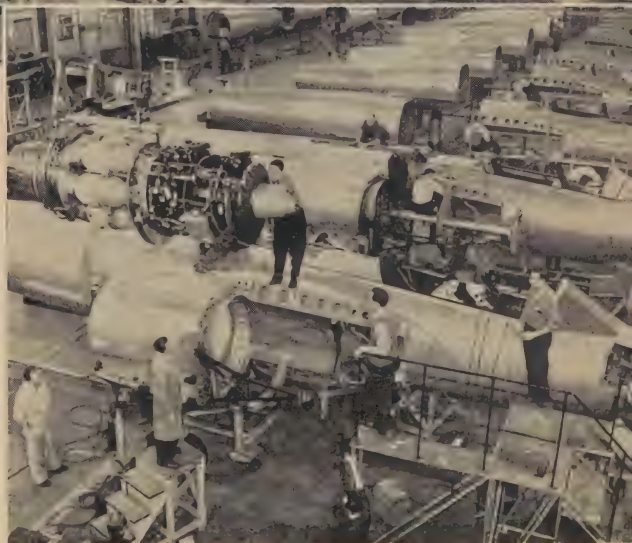
The industries whose major raw materials are based on the forests—pulp and paper, sawmilling, other paper products, furniture and other wood products—accounted for about 18 p.c. of the gross value of factory shipments of all manufacturing industries in 1952. The manufacture of pulp and paper has been the leading industry in Canada for many years and the post-war development of the industry has more than kept pace with the industrial growth of the nation. The value of its output rose from \$528,000,000 in 1946 to \$1,158,000,000 in 1952 and the number of employees from 44,967 to 57,803. The industry stands first among all industries in value of production, in exports, in total wages paid and in capital invested. It is the largest consumer of electric energy and the largest industrial buyer of goods and services. In 1952 it alone accounted for nearly 7 p.c. of the total gross value of factory shipments.

Sawmilling, which ranked sixth among the leading industries in 1952 and accounted for 3 p.c. of the total value of factory shipments, has also expanded its activity in the post-war period. Gross value of production, over half of which comes from British Columbia, almost doubled, employment increased by 20 p.c. to 60,931 persons, lumber output increased by 34 p.c. to 6,808,000,000 bd. feet, and exports increased in value from \$126,000,000 to \$297,000,000. In 1952, goods shipped by the furniture industry had a gross value of \$204,000,000; those shipped by the sash, door and planing mills industry, \$191,000,000; the paper boxes and bags industry, \$172,000,000; and the veneers and plywoods industry, \$73,000,000.

Included among the fifteen leading industries in 1952 were five industries whose major raw materials were produced on Canada's farms—the slaughtering and meat-packing industry, which ranked second among all industries, butter and cheese factories, flour mills, the miscellaneous food preparations industry and the bakery industry. These five together accounted for 12 p.c. of the total gross value of shipments, while all the industries using farm-produced raw materials accounted for 29 p.c. of the total.



Canada's largest aviation enterprise, A. V. Roe Canada Limited, on Jan. 2, 1955, became a group operation, incorporating aircraft, engine and component production. The new Company will direct the efforts of 16,000 experienced designers, engineers, technicians and production workers and will continue, as an independent corporation, its responsibility as one of the main industrial arms of the RCAF.



Non-ferrous metal smelting and refining ranked third among the industries in value of factory shipments and this industry is the most important of all those depending on the mines for their major raw materials. Such industries produced 45 p.c. of the total gross value of shipments in 1952 and most of them used ores mined in this country. The most notable exception was the aluminum products industry which uses imported ore but requires large amounts of electricity, an item that Canada is in an excellent position to provide cheaply. Motor-vehicles and petroleum products, also in the mineral origin group, ranked fourth and fifth in 1952, having risen from ninth and eighth places, respectively, in 1946. In both industries, the use of materials and components of Canadian origin has been increasing, particularly the use of domestic crude oil in petroleum refining. Primary iron and

steel, which ranked seventh in 1952, moved up from thirteenth place in 1946. The output of this industry has more than doubled since that year and Canada is now a substantial exporter of pig iron, having sold about 376,000 tons to other countries in 1952. Steel also increased considerably during the period, production rising from 2,327,000 tons to 3,703,000 tons.

The men's factory clothing industry again appeared among the fifteen leading industries in 1952, after having dropped below that level in 1951. It replaced the cotton yarn and cloth industry which was in twelfth place in 1951 but dropped to nineteenth in 1952. Output of the men's factory clothing industry went up 82 p.c. from 1946 to \$277,000,000 in 1952 and the number of persons employed increased by 25 p.c. to 35,583 in the same comparison. Women's factory clothing, although farther down on the list, also considerably increased its value of production from \$174,000,000 in 1946 to \$217,000,000 in 1952.

Mention should be made of the rapid rise of the aircraft and parts industry which appeared in sixteenth place among the industries in 1952 as against fortieth place in 1951. The gross value of products of this industry increased from \$55,000,000 in 1950 to \$117,000,000 in 1951; in 1952 the gross value of factory shipments was \$245,000,000.

Principal Statistics of the Fifteen Leading Industries, 1952

Industry	Estab- lish- ments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Pulp and paper.....	128	57,803	225,353	76,740	497,047	1,157,888
Slaughtering and meat- packing.....	154	22,864	71,378	4,645	700,370	863,776
Non-ferrous metal smelt- ing and refining.....	17	24,608	87,964	50,571	519,781	837,074
Motor-vehicles.....	19	31,102	113,607	2,781	497,474	767,355
Petroleum products.....	55	11,661	46,145	27,878	453,955	660,357
Sawmills.....	8,283	60,931	135,541	7,191	299,507	568,023
Primary iron and steel..	58	35,001	124,387	31,422	239,001	504,000
Butter and cheese.....	1,602	20,435	48,826	7,018	281,367	378,795
Railway rolling-stock...	36	36,084	108,319	4,784	181,620	332,165
Rubber goods.....	70	21,582	65,478	3,362	120,799	286,655
Clothing, men's factory.	587	35,583	70,782	785	151,358	277,426
Motor-vehicle parts.....	172	21,791	72,608	3,896	145,667	276,785
Flour mills.....	99	4,961	14,689	1,653	236,194	274,208
Miscellaneous food prep- arations.....	325	9,563	23,203	2,994	190,029	266,030
Bread and other bakery products.....	2,585	33,011	74,245	8,211	122,230	260,181
Totals, Fifteen Leading Indus- tries.....	14,190	426,980	1,282,525	233,931	4,636,399	7,710,718
Grand Totals, All Industries—						
1952.....	37,929	1,288,382	3,637,620	392,981	9,146,172	16,982,687
1951.....	37,021	1,258,375	3,276,281	376,714	9,074,526	16,392,187
Percentages of Fifteen Leading Industries to All Industries, 1952...	37.4	33.1	35.3	59.5	50.7	45.4

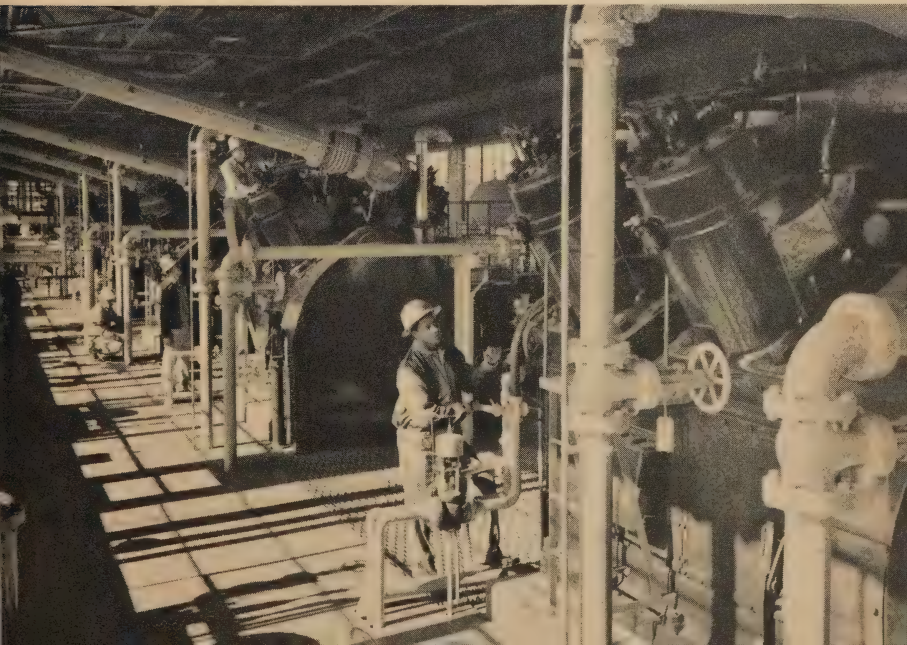
Provincial Distribution—Ontario is Canada's most industrialized province. Since 1946 its manufacturing production has increased by 123 p.c. to \$8,372,000,000 in 1952, and employment has risen by 22 p.c. to 609,696 in

the same comparison. In 1952, Ontario's industries produced over 49 p.c. of the nation's manufactured goods, employed nearly half of the manufacturing working force and paid more than half of the salary and wage bill.

Ontario has the greatest diversification of manufacturing production of any province and certain industries are carried on there almost exclusively. In 1952, the Province turned out 90 p.c. or more, by value, of the Canadian production of motor-vehicles and parts, heavy electrical machinery, agricultural implements, machine tools, starch and glucose, tobacco products and soaps and washing compounds; between 80 p.c. and 90 p.c. of the rubber goods, breakfast foods, wine, carpets, mats and rugs, cordage, rope and twine, tanned leather, electric batteries and artificial abrasives; and between 70 p.c. and 80 p.c. of the primary iron and steel products, iron castings, scientific and professional equipment, wool yarn, white metal alloys, sporting goods, boiler and plate work, refrigerators, vacuum cleaners and appliances, and toys and games. Other industries in which over 50 p.c. of the Canadian value of shipments came from Ontario were: fruit and vegetable preparations, sheet metal products, printing and bookbinding, industrial machinery, aircraft and parts, furniture, radios and parts, flour and feed mills, acids, alkalies and salts, confectionery, and knitted goods. Well over 25 p.c. of the value of shipments of the pulp and paper industry is accounted for by this Province.

Quebec, producing 30 p.c. of Canada's total value of manufactured goods in 1952, is the second largest industrial province. In common with the other provinces, Quebec experienced great industrial expansion following

A row of gas compressors in the multi-million-dollar polythene plant near Edmonton, Alta. In them, natural gas and its derivatives are compressed in the making of ethylene—the first step in the production of polythene, a versatile plastic of world-wide importance as an industrial material. It is used in the manufacture of pipe, wire and cable insulation, containers, transparent film and other materials.



World War II. From 1946, the value of output rose by 107 p.c. to \$5,176,000,000 in 1952 and the number of persons employed in manufacturing increased by 20 p.c. to 429,698 in the same comparison.

Quebec's leading industry is pulp and paper, which had an output of more than \$508,000,000 in 1952—about 44 p.c. of the national total for that industry. Non-ferrous metal smelting and refining is next in importance, reporting value of shipments amounting to \$318,000,000 in 1952. Aluminum production—Canada's total output—reached a record total of 500,000 tons in 1952, making Canada the world's second largest producer of that metal. Quebec also predominates in the production of many commodities. In 1952 the Province produced 94 p.c. of the Canadian value of shipments of tobacco, cigars, and cigarettes, 81 p.c. of the cotton thread, and over 70 p.c. of the oiled and waterproofed clothing, children's clothing, and oilcloth linoleum and coated fabrics; between 60 p.c. and 70 p.c. of the value of production of women's factory clothing, synthetic textiles and silk, cotton yarn and cloth, leather footwear, corsets, narrow fabrics, miscellaneous clothing, and asbestos products; between 50 p.c. and 60 p.c. of the processed cheese, miscellaneous textiles, and fur goods; and between 40 p.c. and 50 p.c. of the miscellaneous electrical apparatus and the railway rolling-stock.

British Columbia, with factory shipments totalling \$1,332,000,000 in 1952, ranked third among the provinces in manufacturing production. Forest resources, fisheries, minerals and electric power have given a broad base and wide diversification to the industrial development of the Province. The post-war expansion is indicated by an increase of 107 p.c. in the value of production from 1946 to 1952 when value of factory shipments amounted to \$645,000,000, and by an increase of 23 p.c. in the number of persons employed in manufacturing—75,484 to 92,667—in the same comparison.

The major industry is sawmilling which reported a gross value of shipments of \$317,000,000 in 1952, followed by pulp and paper with \$125,000,000 and fish-processing with \$58,000,000. The sawmilling industry in British Columbia accounted for 56 p.c. of the Canadian total value of shipments for the industry, and the fish-processing industry for 43 p.c. of the Canadian total for that industry. Non-ferrous metal smelting and refining ranks high among the leading industries of the Province and recent expansion programs together with the new development at Kitimat for the production of aluminum will add to its importance; production figures are confidential and cannot be published. Other industries of importance in the Province are: slaughtering and meat-packing, veneers and plywoods, petroleum products, sash, door and planing mills, food preparations and fertilizers.

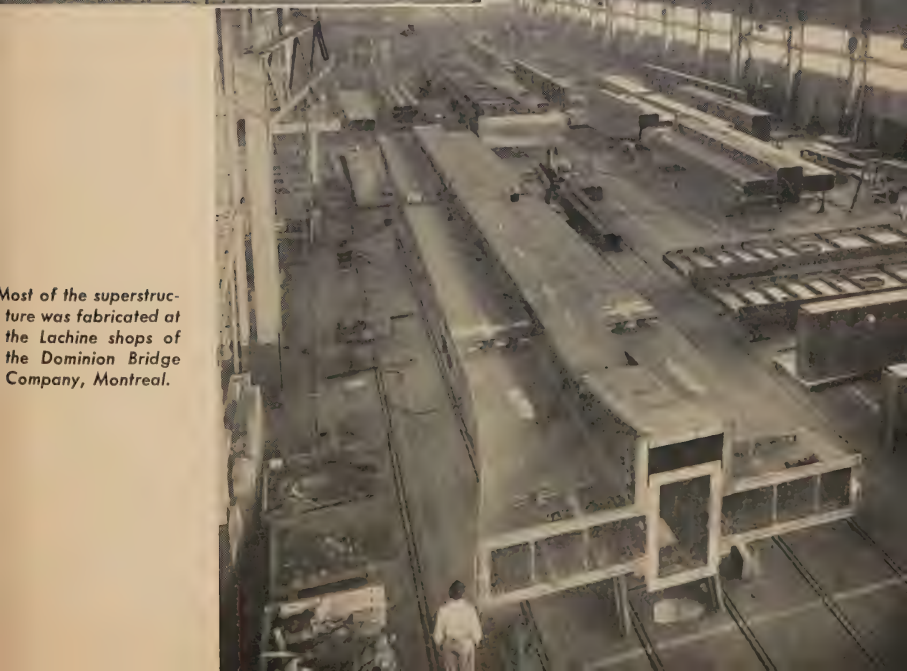
Manufacturing activities in the Atlantic Provinces are based mainly on the forests and the sea. Considering the four provinces as a unit, pulp and paper, fish processing, sawmills, and primary iron and steel predominated, accounting for 44 p.c. of the total production of the region in 1952. From 1946, the gross value of production of the three Maritime Provinces—Prince Edward Island, Nova Scotia and New Brunswick—increased by 78 p.c., from \$361,000,000 to \$643,000,000; the individual increases were 97 p.c., 83 p.c., and 72 p.c., respectively. In the same comparison, employment in manufacturing for the three provinces together increased from 54,211 to 59,417, or by 10 p.c.; individually the increases were 2 p.c., 12 p.c., and 7 p.c., respectively.

For Newfoundland, which became part of Canada in 1949, the increase in value of production since that year was about 57 p.c., and in number of employees, about 48 p.c.

In Newfoundland, manufacturing production is dominated by the pulp and paper and fish processing industries which, in 1952, accounted for 70 p.c. of the total production of the Province. In Prince Edward Island, agricultural and fishery resources make butter and cheese, fish processing and prepared stock and poultry feeds the leading industries. In Nova Scotia, primary iron and steel is the leading industry, having reported shipments valued at \$40,000,000 in 1952. This industry benefits from its location close to the coal mines of Cape Breton and its easy access by sea to the iron ore of Newfoundland. Fish processing runs a close second, value of



A new mile-long bridge across Halifax Harbour, completed early in 1955, is carrying traffic between the twin cities of Halifax and Dartmouth.



Most of the superstructure was fabricated at the Lachine shops of the Dominion Bridge Company, Montreal.

shipments being only slightly lower than those of the iron and steel industry in 1952. Railway rolling-stock and shipbuilding, both users of steel, came next in 1952 with shipments of over \$20,000,000 each, and sawmills and pulp and paper together accounted for shipments of about \$40,000,000. The forests of New Brunswick provide the raw materials for the Province's leading industries; pulp and paper reported shipments of \$87,000,000 in 1952 and sawmills reported shipments of \$21,000,000. Fish processing ranked third in value of shipments in 1952 with a total of \$18,000,000.

Developments in the post-war years have resulted in an increase in the gross value of production of the Prairie Provinces of 74 p.c., from \$777,000,000 to \$1,351,000,000. Alberta showed the greatest advance, having an increase of 102 p.c., compared with Manitoba with 63 p.c., and Saskatchewan with 54 p.c. Employment in manufacturing in the three Provinces together increased by 18 p.c. from 1946 to 1952—72,973 to 86,437.

In Manitoba, slaughtering and meat-packing is the leading industry, having shipments valued at \$112,000,000 in 1952. Railway rolling-stock was second with \$39,000,000, followed by flour mills, butter and cheese factories, petroleum products, men's factory clothing and miscellaneous food preparations, each of which shipped goods valued at over \$20,000,000. Manitoba's industries are well diversified, a large number of small and medium-sized firms having located in the Winnipeg area in the post-war period.

In Saskatchewan, manufacturing has continued along more or less traditional lines. Petroleum products led in 1952 with shipments valued at \$50,000,000. Flour mills were second with \$44,000,000 and slaughtering and meat-packing third with \$36,000,000.

Alberta has moved to the manufacturing forefront of the Prairie Provinces, especially since 1950. Slaughtering and meat-packing led the industries in 1952 with shipments of \$110,000,000. Petroleum products came second with \$81,000,000, flour mills third with \$41,000,000, followed by butter and cheese with \$32,000,000. Sawmills and sash, door and planing mills each had shipments of over \$20,000,000. Other industries are advancing rapidly in the Province, particularly the manufacture of such products as drill bits and tanks, heat exchangers and other bulky equipment for the burgeoning oil and gas industries. Chemicals have also made striking gains.

Statistics of Manufactures, by Province, 1952

Province or Territory	Estab- lish- ments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	948	10,303	25,234	3,873	45,478	105,459
Prince Edward Island...	224	1,795	2,806	326	15,786	22,070
Nova Scotia.....	1,533	33,371	75,245	12,983	183,141	326,840
New Brunswick.....	1,077	24,251	55,978	11,161	164,761	293,760
Quebec.....	12,024	429,698	1,125,945	141,973	2,745,618	5,176,235
Ontario.....	13,172	609,696	1,844,186	173,636	4,387,431	8,372,173
Manitoba.....	1,531	43,365	112,148	9,558	347,665	574,037
Saskatchewan.....	1,022	11,307	29,490	5,610	172,388	258,932
Alberta.....	2,150	31,765	82,527	8,373	331,817	518,411
British Columbia.....	4,225	92,667	283,531	25,298	751,011	1,332,482
Yukon and Northwest Territories.....	23	164	530	190	1,076	2,288
Canada.....	37,929	1,288,382	3,637,620	392,981	9,146,172	16,982,687

The following table gives preliminary figures of manufacturing production in the different provinces for 1953.

Preliminary Statistics of Manufactures, by Province, 1953

Province or Territory	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Value of Factory Shipments
	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	10,198	26,294	3,734	45,316	106,457
Prince Edward Island.....	1,798	3,027	350	16,918	22,954
Nova Scotia.....	31,948	76,917	12,690	182,056	324,839
New Brunswick.....	24,500	60,018	11,382	162,540	294,754
Quebec.....	439,667	1,216,894	144,724	2,774,918	5,370,329
Ontario.....	634,038	2,014,512	189,085	4,546,545	8,868,369
Manitoba.....	43,772	121,819	9,572	344,398	583,268
Saskatchewan.....	11,622	32,357	6,128	181,191	265,478
Alberta.....	33,503	92,506	9,885	349,319	548,340
British Columbia.....	94,617	303,100	27,229	722,938	1,384,477
Yukon and Northwest Territories	157	595	147	1,371	2,493
Canada.....	1,325,820	3,948,039	414,926	9,327,510	17,771,758

Manufacturing in Urban Centres.—The prosperity of most of the cities and towns of Canada, especially in the east, is intimately connected with their manufacturing industries, which provide employment for a large proportion of the labour forces. In Western Canada the cities are more largely distributing centres, although manufactures are increasing rapidly there also, particularly in the Vancouver area of British Columbia.

Urban Centres with Value of Factory Shipments of Over \$100,000,000 in 1952

NOTE.—Information for Arvida and Noranda, Que., and Copper Cliff, Oshawa and Port Colborne, Ont., cannot be shown.

Urban Centre	Estab-lish-ments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Montreal, Que.....	4,283	187,396	496,270	18,292	1,041,585	1,960,827
Toronto, Ont.....	3,825	149,020	439,286	17,160	943,718	1,787,644
Hamilton, Ont.....	575	59,257	190,168	21,288	385,702	781,597
Windsor, Ont.....	330	36,628	130,027	6,027	377,638	646,949
Vancouver, B.C.....	1,275	33,296	102,164	5,292	248,965	437,663
Montreal East, Que.....	33	5,864	20,205	15,036	284,746	408,257
Winnipeg, Man.....	843	28,162	70,744	3,158	160,845	296,264
Sarnia, Ont.....	49	8,172	29,221	11,564	110,032	198,879
Kitchener, Ont.....	205	14,768	40,621	1,833	95,069	189,466
London, Ont.....	279	15,927	44,302	2,340	81,336	180,716
Calgary, Alta.....	315	9,436	27,229	2,116	107,347	162,524
Quebec, Que.....	431	15,856	36,584	4,586	84,850	161,966
New Toronto, Ont.....	50	7,221	25,216	1,851	88,012	158,289
Welland, Ont.....	61	9,337	32,945	6,395	77,471	157,543
Edmonton, Alta.....	330	10,206	27,671	1,068	99,725	153,099
Brantford, Ont.....	161	13,305	42,285	1,880	77,491	150,351
St. Laurent, Que.....	56	17,110	49,932	1,393	74,935	139,796
Leaside, Ont.....	61	10,572	33,652	1,430	68,325	137,843
Sault Ste. Marie, Ont..	57	8,196	29,470	7,303	68,686	136,357
St. Catharines, Ont.....	104	11,975	38,327	1,954	62,302	134,364
St. Boniface, Man.....	93	4,269	12,610	1,003	101,397	129,841
Peterborough, Ont.....	101	9,758	30,350	1,254	67,770	122,972
Shawinigan Falls, Que..	50	6,070	19,393	9,399	49,293	112,759
Three Rivers, Que.....	94	7,434	21,820	7,054	49,296	107,614
New Westminster, B.C.	118	6,429	19,183	1,208	59,926	106,731
Lachine, Que.....	69	8,869	29,772	1,194	39,699	103,944
Niagara Falls, Ont.....	84	6,950	22,771	6,140	40,593	100,851



Vancouver's new \$16,500,000 eight-lane bridge over False Creek in the centre of the downtown industrial area is nearing completion. A recent nation-wide traffic survey placed Vancouver first among Canadian cities for its clear-cut control policy, its traffic signs, compulsory driving tests, inspections and regular surveys.

Capital Expenditures

CAPITAL expenditures are defined as those outlays made to replace, modernize and expand the nation's stock of physical assets such as factories, theatres, stores, hospitals, mines, railways, telephone lines, power installations and the tools, machinery and equipment used in either producing goods or providing services. Government-owned assets of a physical nature such as roads, canals, office buildings and defence structures, and all housing, whether rented or owner-occupied, are also included. Excluded are outlays made for defence equipment, the accumulation of inventories and the acquisition of land and buildings.

One of the most important determinants of the level of economic activity within a nation is the relative size of its capital expenditures program. Extensive changes take place from year to year in total capital outlays and, because of this variability, capital expenditures form one of the most dynamic factors affecting employment and income levels. The rate of capital spending indicates the extent to which an economy is providing for the future, or is becoming industrialized; it also reflects changes in the opinions of the business community as to future prospects and of governments as to future demands for their services.

Capital expenditures have played a very significant role in Canada's post-war growth. From 1946 to 1953 the combined total of new private and public investment in durable assets amounted to over \$30,000,000,000. In each successive year from the end of the War, except 1950 and 1954, a larger share of the national output was taken up by the investment program. In 1946 the share was 14.2 p.c., in 1953, 23.9 p.c., and for the whole period it was nearly 21 p.c. Since the mid-1920's, only in the period 1926 to 1930 was this high rate of growth paralleled. The preliminary figures for 1954 and the forecast of intentions for 1955 (as of January 1955), given in the following table, indicate that although capital spending declined slightly in 1954, such outlays will continue to provide an important stimulus to further growth.

Private and Public Capital Expenditures, 1946-55

NOTE.—1946-53 figures are actual expenditures, 1954 figures are preliminary and 1955 figures are forecasts as of January 1955.

Year	Construction	Machinery and Equipment	Total	Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	
1946 ¹	1,074	629	1,703	14.2
1947 ¹	1,424	1,065	2,489	18.1
1948 ¹	1,877	1,298	3,175	20.3
1949.....	2,124	1,378	3,502	21.3
1950.....	2,366	1,449	3,815	21.0
1951.....	2,735	1,842	4,577	21.3
1952.....	3,263	2,022	5,285	22.7
1953.....	3,665	2,176	5,841	23.9
1954.....	3,694	1,804	5,498	22.9
1955.....	4,064	1,744	5,808	..

¹ Excludes Newfoundland.

The capital expenditures of business, institutions and governments for housing for 1954 amounted to \$5,498,000,000, 5.9 p.c. less than the record level of \$5,841,000,000 reached in 1953. Within the total program, expenditures on construction were up slightly and those for machinery and equipment were down by 17.1 p.c.

During the year a number of factors had unfavourable effects on the planned capital expenditure program. Adverse weather conditions and the loss of construction time because of strikes resulted in some projects proceeding more slowly than planned, and in some work being postponed. Greatly reduced crop revenues in Western Canada no doubt affected both the cash and credit position of farmers and, in turn, their equipment purchases. This situation very likely influenced other capital expansion plans associated with agricultural decisions to invest in durable assets.

In 1954, housing, trade, finance and institutions were the main sectors showing increases. The renewed strength in housing, trade and finance was first evident in 1953 following the period of the defence build-up when construction projects of these groups were restrained by government regulations. Primary industries and manufacturing accounted for only 28.1 p.c. of the total in 1954 as compared with 32.5 p.c. in 1953. However, within the primary industries group, the relation of mining to the total remained almost the same. Capital outlays of governments and utilities declined from their respective high levels recorded in 1953.

Private and Public Capital Expenditures, by Sector, 1953-55

NOTE.—1953 figures are actual expenditures, 1954 are preliminary and 1955 are forecasts as of January 1955.

Sector and Year	Construction	Machinery and Equipment	Total
	\$'000,000	\$'000,000	\$'000,000
Agriculture and fishing..... 1953	85	461	546
..... 1954	78	315	393
..... 1955	80	315	395
Forestry..... 1953	19	15	34
..... 1954	20	21	41
..... 1955	24	17	41
Mining, quarrying and oil wells..... 1953	167	90	257
..... 1954	169	80	249
..... 1955	219	90	309
Manufacturing..... 1953	325	644	969
..... 1954	286	509	795
..... 1955	298	519	817
Utilities..... 1953	687	522	1,209
..... 1954	639	475	1,114
..... 1955	695	415	1,110
Construction..... 1953	10	81	91
..... 1954	6	60	66
..... 1955	7	41	48
Housing..... 1953	1,084	—	1,084
..... 1954	1,169	—	1,169
..... 1955	1,283	—	1,283
Trade—wholesale and retail..... 1953	191	139	330
..... 1954	218	139	357
..... 1955	217	144	361

the St. Lawrence power project begins. This cofferdam, stretching between Sheek and Barnhart Islands, is one of two that will seal off the St. Lawrence River from the power-house site area. Work was begun in mid-summer of 1954 and the first units of the two 16-generator power-houses at this point will be in service by 1958.



Private and Public Capital Expenditures, by Sector, 1953-55—concluded

Sector and Year	Construction	Machinery and Equipment	Total
	\$'000,000	\$'000,000	\$'000,000
Finance, insurance and real estate.....1953	63	15	78
.....1954	95	16	111
.....1955	105	16	121
Commercial services.....1953	29	89	118
.....1954	29	80	109
.....1955	32	76	108
Institutional services.....1953	268	33	301
.....1954	292	37	329
.....1955	349	44	393
Government departments.....1953	737	87	824
.....1954	693	72	765
.....1955	755	67	822
Totals.....1953	3,665	2,176	5,841
.....1954	3,694	1,804	5,498
.....1955	4,064	1,744	5,808

Construction Activity

The most apparent activity generated by Canada's investment program is construction. In 1953, it is estimated that close to 500,000 of the total civilian labour force of about 5,300,000 were employed in either the erection of new, or the repair of existing, structures.

While the original forecast of the total value of new construction work to be put in place during 1954 was not realized for the reasons mentioned on p. 186, it was nevertheless a noteworthy year for the construction industry.

Two large developments—the Kitimat project in northern British Columbia and the Quebec-Labrador iron-ore project—were completed during the year. Also, Canada's first subway, the construction of which was spread over several years, started operation in April 1954. Initial work on the St. Lawrence power project began in July and toward the end of the year plans were under way for two multi-million-dollar natural-gas pipe lines from Alberta, one stretching eastward and the other southwestward.

The summary statistics in the following tables are based on reports received from organizations paying for the work done by contractors as well as work done by their own labour forces. They include also payments made to material suppliers and such indirect construction costs as legal, architectural and engineering fees. Although derived from the same source as capital expenditure figures, the statistics of construction activity for 1953 and 1954 in this section are based on earlier data.

Forecast estimates for 1954 disclose a continuation of the 1953 shift in emphasis from engineering construction to building construction. All categories of this type except industrial construction contributed to building construction's increased share of the total. The significant increase for engineering construction was that recorded for gas and oil facilities.

Value of New and Repair Construction Work Performed, by Principal Type, 1952-54

NOTE.—1952 figures are actual, 1953 are preliminary and 1954 are forecasts as of January 1954.

Type of Construction	1952		1953		1954	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$'000		\$'000		\$'000	
Building—						
Residential.....	1,029,000	24.5	1,299,000	28.3	1,347,000	27.9
Industrial.....	509,000	12.1	497,000	10.8	472,000	9.8
Commercial.....	454,000	10.8	513,000	11.2	575,000	11.9
Institutional.....	314,000	7.5	336,000	7.3	422,000	8.7
Other.....	105,000	2.5	87,000	1.9	98,000	2.0
Totals, Building.....	2,411,000	57.4	2,732,000	59.5	2,914,000	60.3
Engineering—						
Road, highway and bridge construction.....	574,000	13.7	572,000	12.4	564,000	11.7
Waterworks and sewage systems.....	136,000	3.2	119,000	2.6	139,000	2.9
Dams and irrigation.....	66,000	1.6	61,000	1.3	35,000	0.7
Electric power construction.....	386,000	9.2	414,000	9.0	415,000	8.6
Railway, telephone and telegraph construction.....	296,000	7.0	314,000	6.8	308,000	6.4
Gas and oil facilities.....	215,000	5.1	281,000	6.1	349,000	7.2
Marine construction.....	70,000	1.7	59,000	1.3	67,000	1.4
Other engineering construction.....	45,000	1.1	43,000	0.9	39,000	0.8
Totals, Engineering..	1,788,000	42.6	1,863,000	40.5	1,916,000	39.7
Totals, Construction	4,199,000	100.0	4,595,000	100.0	4,830,000	100.0

timat—a fabu-
ous dream be-
come reality.



On Aug. 3, 1954, H.R.H. the Duke of Edinburgh "tapped" the first 50-lb. aluminum ingot poured at Kitimat.

is \$550,000,000 project consisted of five separate engineering feats—a dam to impound the water of a chain of lakes, a 10-mile tunnel through a mountain barricade to give passage to falling waters, a powerhouse inside a mountain, a transmission line to carry the power, and a melter to convert bauxite ore to aluminum ingots.



Summary Statistics of Construction Activity, by Province and Contractor, 1952-54

NOTE.—1952 figures are actual, 1953 are preliminary and 1954 are forecasts as of January 1954.

Province or Contractor and Year	Average Employees	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
	No.	\$'000	\$'000	\$'000
Newfoundland.....	1952 9,771	25,154	37,932	74,370
	1953 8,691	23,036	35,336	68,277
	1954 8,786	23,599	36,503	70,252
Prince Edward Island.....	1952 1,962	4,272	6,352	12,747
	1953 1,902	4,342	6,496	12,950
	1954 2,079	4,836	7,273	14,528
Nova Scotia.....	1952 17,870	43,617	64,754	119,696
	1953 19,559	50,328	74,169	137,672
	1954 21,042	55,627	83,744	154,799
New Brunswick.....	1952 13,872	32,173	48,021	88,582
	1953 14,169	34,901	51,998	95,755
	1954 15,456	38,899	58,591	107,750
Quebec.....	1952 134,427	388,492	542,192	1,052,287
	1953 129,148	397,680	555,913	1,077,965
	1954 138,330	436,533	612,284	1,185,868
Ontario.....	1952 157,666	491,324	778,800	1,458,283
	1953 168,894	558,579	872,634	1,640,786
	1954 171,242	579,662	911,405	1,710,601
Manitoba.....	1952 25,740	71,270	102,194	198,690
	1953 26,641	78,196	112,771	218,307
	1954 25,948	78,410	114,342	220,637
Saskatchewan.....	1952 22,233	65,259	112,683	200,761
	1953 23,203	72,345	124,082	221,409
	1954 24,379	78,610	137,799	245,767
Alberta.....	1952 44,660	141,164	283,610	479,232
	1953 50,367	163,734	329,255	558,253
	1954 54,946	180,217	363,982	617,249
British Columbia.....	1952 49,752	191,169	245,380	513,973
	1953 51,204	210,202	268,631	563,819
	1954 45,970	188,377	239,910	502,629
Totals.....	1952 477,953	1,453,894	2,221,918	4,198,621
	1953 493,778	1,593,343	2,431,285	4,595,193
	1954 508,178	1,664,770	2,565,833	4,830,080
Contractors.....	1952 294,908	965,498	1,610,850	3,015,596
	1953 302,200	1,047,922	1,756,864	3,283,376
	1954 317,030	1,110,190	1,875,177	3,489,640
Utilities.....	1952 77,842	214,597	249,136	499,797
	1953 84,091	248,343	284,133	573,603
	1954 83,805	253,202	290,096	586,330
Governments.....	1952 55,772	138,172	152,932	305,954
	1953 53,055	139,332	153,619	307,434
	1954 54,907	147,484	164,591	328,055
Others.....	1952 49,431	135,627	209,000	377,274
	1953 54,432	157,746	236,669	430,780
	1954 52,436	153,894	235,969	426,055

Housing

House-building activity was at a record level in 1954. During the year 113,500 new dwelling units, aside from conversions, were started and 102,000 units were completed. These figures compared with 102,400 units started and 96,800 completed in 1953, the previous record year. All regions except Quebec shared in the increased activity in 1954 but Ontario showed the



The construction of a causeway across the Strait of Canso will provide land passage from Cape Breton Island to the mainland of Nova Scotia. The causeway, a mile long and 80 feet wide at the top will reach shore just left of the lighthouse. In the foreground is the excavation for the ship channel.

largest relative advance. Housing starts in that Province were 19 p.c. higher than in 1953, largely accounted for by the activity in the Greater Toronto area where housing starts were 20,500 in 1954 compared with 11,500 in 1953.

New Dwelling Units Started, Completed and Under Construction, by Province, 1953 and 1954

Province	1953			1954		
	Starts	Com- pletions	Under Construc- tion Dec. 31	Starts	Com- pletions	Under Construc- tion Dec. 31
	No.	No.	No.	No.	No.	No.
Newfoundland.....	1,782	1,480	2,858	1,345	1,160	2,906
Prince Edward Island.....	137	182	77	198	188	87
Nova Scotia.....	2,527	2,160	1,836	2,311	2,496	1,503
New Brunswick.....	1,475	1,402	694	2,228	1,415	1,369
Quebec.....	30,249	29,803	13,418	29,958	26,182	16,629
Ontario.....	38,873	35,173	24,134	46,382	41,085	27,941
Manitoba.....	4,590	4,794	2,641	5,260	5,107	2,796
Saskatchewan.....	4,561	4,047	2,801	4,713	4,889	2,545
Alberta.....	9,625	9,854	5,613	11,529	10,285	6,442
British Columbia.....	8,590	7,944	5,851	9,603	9,158	6,423
Canada¹.....	102,409	96,839	59,923	113,527	101,965	68,641

¹ Exclusive of the Yukon and Northwest Territories.

New Dwelling Units Completed, by Type, 1950-54

Type	1950	1951	1952	1953	1954
	No.	No.	No.	No.	No.
New Construction—					
One-family detached.....	68,685	60,366	55,967	68,916	71,760
Two-family detached.....	7,376	7,568	5,314	7,714	6,098
Row or terrace.....	145	585	99	372	1,065
Apartments.....	12,809	12,791	11,707	19,837	23,042
Totals, New Construction.....	89,015	81,310	73,087	96,839	101,965
Conversions.....	2,739	3,500	3,215	3,824	4,373
Grand Totals¹.....	91,754	84,810	76,302	100,663	106,338

¹ Exclusive of the Yukon and Northwest Territories.

New Dwelling Units Completed, by Metropolitan Area, 1950-54

Metropolitan Area	1950	1951	1952	1953	1954
	No.	No.	No.	No.	No.
St. John's, Nfld.....	299	326	402	585	451
Halifax, N.S.....	708	620	636	1,241	1,360
Saint John, N.B.....	332	98	211	273	273
Quebec, Que.....	1,473	1,045	1,056	1,580	2,380
Montreal, Que.....	15,826	16,316	11,500	17,833	16,191
Ottawa, Ont.....	1,938	2,343	1,752	2,149	2,537
Toronto, Ont.....	9,373	13,026	9,576	9,460	16,252
Hamilton, Ont.....	1,511	1,757	1,877	2,961	2,593
London, Ont.....	1,325	1,261	1,358	1,355	1,297
Windsor, Ont.....	1,196	940	818	940	1,722
Winnipeg, Man.....	3,070	2,127	2,088	3,089	3,602
Vancouver, B.C.....	5,028	4,340	4,249	5,913	6,796
Victoria, B.C.....	1,166	844	715	944	1,065
Totals, Metropolitan Areas....	43,245	45,043	36,238	48,323	56,519
Totals, Canada¹.....	89,015	81,310	73,087	96,839	101,965

¹Exclusive of the Yukon and Northwest Territories.

During 1954 there was a major change in the Federal Government's housing legislation. The National Housing Act, 1954, which came into force on Mar. 22, introduced a system of mortgage loan insurance and provided for the participation of the chartered banks and the Quebec savings banks in mortgage lending under the Act. The Act also provided for higher loan-to-value ratios, higher maximum loan amounts and longer terms for loans.

The new legislation was an important factor in the increase in housing starts in 1954; in 1953 loans for 38,600 dwelling units were approved under the old National Housing Act and in 1954 loans for 50,000 dwelling units were approved under the old and the new Acts together.

Most of the dwellings started in 1954 were privately initiated, only 1,500 units being built directly by the Federal Government. Of the privately initiated dwellings started, 42 p.c. were financed with some form of government assistance such as mortgage loans or insurance of such loans; in 1953 the proportion was 36 p.c.



New housing, Manor Park, Ottawa, Ont.

*Net Loans Approved under the National Housing Acts, by Province,
1953 and 1954*

Province or Territory	1953			1954		
	Loans	Dwellings	Amount	Loans	Dwellings	Amount
	No.	No.	\$'000	No.	No.	\$'000
Newfoundland.....	158	168	1,279	127	166	1,665
Prince Edward Island.....	15	16	124	16	16	154
Nova Scotia.....	410	1,130	7,813	480	746	6,075
New Brunswick.....	308	333	2,629	375	391	3,372
Quebec.....	4,684	7,456	55,459	6,975	9,057	81,128
Ontario.....	13,097	18,839	145,129	20,422	26,074	240,683
Manitoba.....	1,558	2,050	14,969	1,913	2,540	21,813
Saskatchewan.....	633	832	6,231	884	1,040	9,152
Alberta.....	3,738	5,464	39,593	4,500	5,649	49,321
British Columbia.....	1,913	2,360	17,593	3,882	4,344	39,418
Northwest Territories.....	1	1	7	—	—	—
Yukon Territory.....	—1	—1	—3	—	—	—
Canada.....	26,514	38,648	290,823	39,574	50,023	452,781

Commodity Production

THIS section contains a survey of the actual production of commodities in Canada—activities of such industries as transportation, communication, trade, finance and service are not included.

The net value of Canadian commodity production in 1952 rose to \$13,708,000,000, an increase of nearly 5 p.c. over the 1951 total. The developments affecting production included an improved relationship between supply and demand: an abatement of inflationary pressures permitting the lifting of consumer credit regulations and the relaxation of controls over the supply of essential materials; and the outbreak of the foot-and-mouth disease which caused the temporary loss of the United States market and adversely affected the farm sector. Most major price indexes showed declines throughout the year, although the average level of the consumer price index was about 2 p.c. above 1951. Labour income rose steadily throughout the year and on average was 11 p.c. above 1951.

The following analysis covers changes in commodity output, by province, during 1952 and the tables on p. 197 give comparative data for 1950 and 1951.

Newfoundland.—In 1952, the net value of commodity production in Newfoundland accounted for a little more than 1 p.c. of the Canadian total. Over one-third of the Province's production came from the pulp and paper and fish processing industries, and construction accounted for about 24 p.c. The mining industry—the principal products of which are iron ore, lead and zinc—produced 14 p.c. of the total and primary fisheries 8 p.c. Exclusive of agriculture, which plays a minor role in Newfoundland's economy, the total value of commodity output advanced about 10 p.c. during the year, mainly the result of increased construction activity.

Prince Edward Island.—The economy of Prince Edward Island is predominantly agricultural, and potatoes, live stock and dairy products are the principal farm commodities. In 1952 agriculture represented about 60 p.c. of the Island's value of production, and construction and manufactures accounted for most of the remainder.

Nova Scotia.—The value of the commodity output of Nova Scotia rose by more than 6 p.c. during 1952 and in that year represented more than 2 p.c. of total Canadian production. Manufacturing accounted for over 41 p.c. of the provincial total, the leading manufacturing industries being primary iron and steel, fish processing, pulp and paper, sawmilling, railway rolling-stock and shipbuilding. Construction was in second place with 17 p.c. of the total. Mining, agriculture and fisheries, in that order, were the Province's main primary industries. Coal mining has for some years contributed about 80 p.c. of the value of mineral output and live stock, poultry and dairy products are the principal farm commodities.

New Brunswick.—The net value of production in New Brunswick was slightly lower in 1952 than in 1951. In the later year the Province's production accounted for about 2 p.c. of the Canadian total. Manufacturing, the principal activity, represented more than 44 p.c. of the provincial total;

the main manufacturing industry is pulp and paper, followed by sawmilling and fish processing. Among the primary industries, agriculture—producing mainly potatoes, live stock, poultry and dairy commodities—was the most important, followed by forestry. Construction in 1952 was very active in New Brunswick, contributing 15 p.c. of the total commodity production.

Quebec.—The Province of Quebec accounted for 26 p.c. of all Canadian commodity output in 1952 and recorded an advance of 8 p.c. over the preceding year. Manufacturing, by far the most important activity, represented over 60 p.c. of the provincial total in 1952; pulp and paper was the leading manufacturing industry, followed by metal smelting and refining, textiles and clothing. The value of construction accounted for more than 14 p.c. of the provincial output and agriculture contributed nearly 9 p.c. Live stock, poultry and dairy products provide the major part of the agricultural income. All industries except agriculture and trapping recorded value gains in 1952 as compared with 1951

Ontario.—The value of net commodity production in Ontario made up 40 p.c. of the Canadian total in 1952. The Province's total amounted to \$5,500,000,000 and represented an increase of over 3 p.c. as compared with 1951. The economy of Ontario is dominated by manufacturing, which provided 70 p.c. of the provincial output in 1952. The manufacturing industries that contributed more than \$100,000,000 to the net output were, in order of importance: motor-vehicles, primary iron and steel, pulp and paper, metal smelting and refining, heavy electrical machinery, rubber goods and motor parts. Agricultural output represented nearly 10 p.c. of the

One-third of the world's supply of asbestos fibre is produced at the Jeffrey Mine at Asbestos, Que. The new mill completed in the autumn of 1954 replaces obsolete production facilities. In the background may be seen an open mine and part of the townsite of Asbestos.



provincial value composite and consisted mostly of vegetables, live stock, poultry and dairy products. The value of construction work performed accounted for more than 12 p.c., about the same proportion as in 1951. Only agriculture and trapping showed value declines in 1952 as compared with the previous year.

Manitoba.—In 1952, the net value of Manitoba's production contributed about 4 p.c. of the Canadian total. Agriculture and manufacturing provided nearly equal shares (38 p.c. and 37 p.c., respectively) of the provincial value composite. Grain and live stock are the principal agricultural products and in the manufacturing sector, slaughtering and meat-packing and railway rolling-stock are the leading industries. A gain in manufacturing production of about 13 p.c. over 1951 more than counterbalanced a decline of nearly 9 p.c. in the value of agricultural output. The value of construction in Manitoba in 1952 rose appreciably compared with 1951 and accounted for nearly 17 p.c. of the Province's total output. Reduced output of copper and gold resulted in a sharp drop in the value of mineral production to its lowest level in five years.

Saskatchewan.—The economy of Saskatchewan is overwhelmingly dependent on agricultural production which, in 1952, accounted for 77 p.c. of the Province's net value of commodity output. In that year, Saskatchewan accounted for 7 p.c. of the national composite. In contrast to the experience of most other provinces, the value of agricultural output advanced by more than 6 p.c. over 1951, the increased value of grains more than off-setting declines in live stock production. Manufacturing output, consisting mostly of petroleum products and the products of flour mills, meat-packing plants, breweries and butter and cheese-making plants recorded a sharp gain compared with 1951, and a similar increase was shown in the value of construction.

Alberta.—In 1952, commodity output of Alberta was 6 p.c. higher than in 1951; in the later year it represented nearly 8 p.c. of the national total. Because of the rapid advance of mineral production in recent years, agriculture has progressively diminished in relative importance. In 1952 agriculture accounted for about 46 p.c. of provincial output and mining represented 16 p.c., compared with 54 p.c. and 11 p.c., respectively, in 1948. In 1952, the value of construction performed represented over 18 p.c. of the provincial net output, and manufacturing accounted for nearly 17 p.c.—meat-packing, petroleum products, sawmills and breweries are the leading manufacturing industries. Only agriculture and trapping failed to show increases in production value in 1952 as compared with 1951.

British Columbia.—British Columbia in 1952 contributed 9 p.c. of the total value of Canadian commodity production and was thus the third-ranking province in value of output after Ontario and Quebec. In that year the provincial output values of agriculture, fisheries, trapping, mining and manufacturing showed declines from 1951; these were offset by increases in the production value of electric power construction while the forestry industry remained approximately the same. Thus British Columbia's total output for 1952 showed little change compared with 1951. Manufacturing was the leading activity in the Province, representing 45 p.c. of the provincial output.

The principal manufacturing industries, from the point of view of net value, were sawmills, pulp and paper, fish processing, veneers and plywoods, and fertilizers. The construction industry accounted for 22 p.c. and recorded a gain of 27 p.c. over 1951. Forestry represented 13 p.c. and mining more than 9 p.c. of the provincial total.

Net Value of Production, by Industry and Province, 1950-52

Industry and Province	1950	1951	1952
Industry	\$	\$	\$
Agriculture.....	1,883,036,000	2,653,678,000	2,467,166,000
Forestry.....	389,500,000	486,293,276	533,937,415
Fisheries.....	82,191,043	102,026,979	92,892,725
Trapping.....	15,204,419	19,791,933	14,137,820
Mining.....	657,328,669	770,143,233	777,443,771
Electric power.....	313,347,197	363,642,975	402,073,511
Manufactures.....	5,942,058,229 ¹	6,940,946,783	7,443,533,199
Construction.....	1,475,000,000	1,738,274,000	1,976,703,000
Totals.....	10,757,665,557	13,074,797,179	13,707,887,441
Province			
Newfoundland ²	97,238,222	136,110,998	150,017,395
Prince Edward Island.....	30,819,330	36,505,157	41,696,971
Nova Scotia.....	259,731,738	296,791,447	315,598,297
New Brunswick.....	242,111,904	268,285,055	266,208,879
Quebec.....	2,816,309,229	3,337,598,876	3,603,837,567
Ontario.....	4,534,265,812	5,277,350,439	5,462,414,735
Manitoba.....	483,805,980	569,952,272	580,632,738
Saskatchewan.....	546,960,335	891,151,432	967,630,499
Alberta.....	734,148,363	1,002,712,967	1,060,842,944
British Columbia ³	995,233,672	1,240,224,661	1,239,598,201
Yukon and Northwest Territories ³ ...	17,040,972	18,113,875	19,409,115

¹ Exclusive of fish processing in Newfoundland. ² Excludes agriculture, fisheries, trapping and fish processing in 1950; agriculture and trapping in 1951; and agriculture in 1952. ³ Forestry and construction figures for the Yukon and Northwest Territories are included with British Columbia.

The national per capita net value of commodity output rose from \$535 in 1946 to \$965 in 1952 (exclusive of Newfoundland), an increase of 80 p.c. As wholesale prices rose by approximately 63 p.c. in the same period, a considerable "real" advance in per capita output is indicated. Compared with 1951, the value of per capita output in 1952 increased by about 2 p.c.

Per Capita Net Value of Production, by Province, 1950-52

Province	1950	1951	1952	Province	1950	1951	1952
	\$	\$	\$		\$	\$	\$
Newfoundland.....	..	..	..	Manitoba.....	630	734	728
Prince Edward Island...	321	372	405	Saskatchewan.....	657	1,071	1,148
Nova Scotia.....	407	462	483	Alberta.....	804	1,068	1,094
New Brunswick.....	473	520	506	British Columbia ¹ ...	872	1,057	1,029
Quebec.....	710	823	863				
Ontario.....	1,014	1,148	1,146	Canada.....	798	948	965

¹ Includes Yukon and Northwest Territories.



Saskatchewan

The Economy in 1954

THE year 1954 was essentially one of adjustment for the Canadian economy, though for the first time the value of national output of goods and services declined, the drop being about 2 p.c. from 1953's record \$24,350,000,000. The major factor in the decline was an estimated \$500,000,000 decrease in value of grain production resulting from poor weather and rust, a development sufficient in itself to account for the 2-p.c. decline in total output.

In the non-farm sector of the economy, a network of counterbalancing factors maintained the value of output at approximately the 1953 level of \$22,701,000,000. Though manufacturing activity as a whole declined substantially, reflecting downward pressures in the economy, the decline was generally offset by continued expansion of the services industries and by gains in all of the primary industries except agriculture. Within the manufacturing group, decline in output was concentrated mainly in the durable-goods producing industries, including iron and steel products, transportation equipment and electrical apparatus and supplies. Production of non-durable manufactured goods also fell below the 1953 level but the decline was less marked and reflected mainly a drop in clothing and textiles. Output in most other non-durable goods industries was well above 1953 levels.

Other downward pressures were also operative in 1954 including heavy liquidations of business inventories; a decline in exports; an apparent falling-off in business outlays for plant, machinery and equipment; a levelling-off of the defence build-up; and reduced demand for consumer durable goods. The most significant was the sharp liquidation of business inventories that began in 1954 following the substantial build-up of earlier years to meet defence requirements and growth in economic activity generally. As these forces levelled off and supplies became easier, inventory holdings in certain lines became excessive and substantial liquidations followed. Moreover, production of some types of manufactured goods was cut back in 1954 as current requirements were being met out of inventory stocks.

Export demand in 1954 was lower than in the preceding year, reflecting to a large extent a decline in overseas requirements for Canadian grain. At the same time, the downturn of business activity in the United States was accompanied by lower sales of certain Canadian goods to that country. As industrial capacity in overseas countries continued to expand and as resources were freed from the defence effort in the United States, international trade competition was intensified in 1954, adding to the difficulties of Canadian exporters of manufactured goods.

Although final data are not yet available, business investment in plant, machinery and equipment appears to have declined in 1954. Because of unfavourable weather conditions, non-residential construction fell short of expectations. Also the completion of a number of large resource development and other industrial expansion projects affected the investment picture as did the decline in farm income which was reflected in lower outlays for farm machinery.

Defence outlays were moderately lower in 1954, and this development undoubtedly had some effect on output in certain industries. It may be

noted that Canadian defence outlays reached their peak in 1953 and did not provide an expansionary force in the economy in the following year.

A lower level of consumer durable goods purchases in 1954 was a factor in the decline in business activity. A wave of buying had reflected the pent-up demand of the post-Korean period and the removal of consumer credit restraints in 1952. But by the end of 1953, this demand had been largely satisfied and had diminished to more normal proportions and the cumulative backlog of orders appeared to have been worked off. All types of consumer durable goods were affected by the decline, with the major exception of television sets.

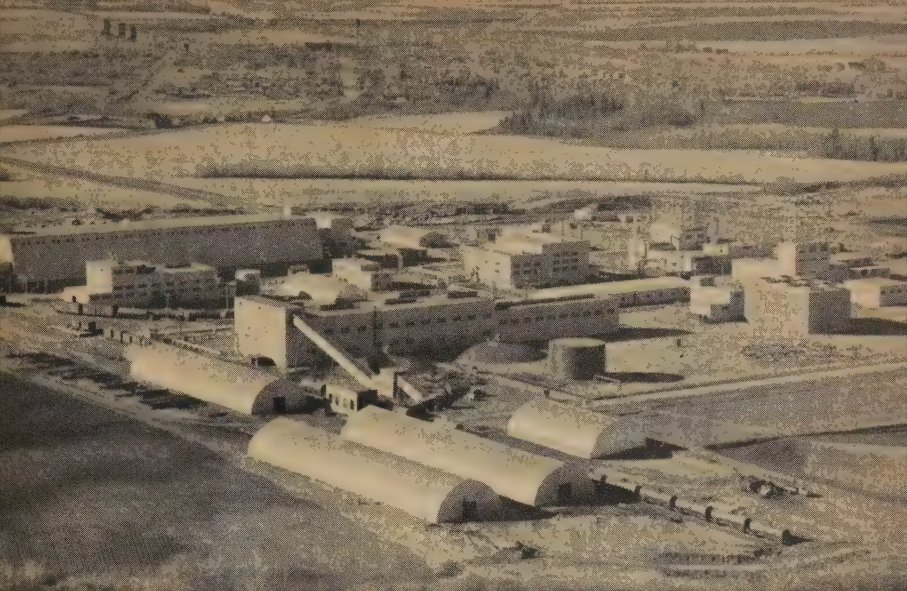
These downward pressures were largely offset by major expansionary influences. Though durable goods purchases were lower than in 1953, consumer outlays for non-durables and services showed considerable increase—sufficient to raise the total of consumer expenditures above the 1953 level by about 3 p.c. and to offset an important part of the decline in other demand categories. This continued expansion of consumer demand, partly attributable to the growth in the population, was directly related to the high and sustained level of personal income throughout 1954. Personal income had risen by 15 p.c. during 1952 and 1953 while retail prices were relatively unchanged; this meant a substantial gain in real wages which, in turn, supported a large volume of increased buying in these years as well as a high level of personal saving. In 1954, despite the relatively poor crop and a slightly lower level of employment, personal income remained stable. This stability was derived from many sources, notably higher average hourly earnings and higher transfer payments from government (unemployment benefits, family allowances, old age pensions and others). In addition, although the level of profits was below the previous year, dividend payments to individuals were maintained. Net rental income also increased as housing stock grew, and interest payments to persons continued to rise. The general level of prices also remained stable during the year.

A further expansionary influence was the continued growth in outlays for new housing which reached an all-time record for Canada in 1954. Changes in the National Housing Act early in the year which reduced down-payment requirements and extended the repayment period, and a change in the Bank Act which permitted the chartered banks to make loans on home mortgages gave impetus to new housing construction. Largely responsive to these housing developments, municipal government expenditures rose further over the preceding year as demands grew for local improvements and services such as roads, streets, sewage and water facilities, schools and hospitals.

The decline in imports of goods and services also had its influence in easing the effect of the fall-off in final expenditures on Canadian production. Since much of the decline in Canadian demand for certain types of goods was met by a cut-back in imports of goods and services from foreign countries, Canadian output fell less sharply than did total outlays by major spending groups.

Thus the over-all effect of these counterbalancing tendencies was to leave the total Canadian output, apart from the farm sector, at approximately the same level as in 1953.

Developments within certain phases of the economy follow.



Refinery nearing completion at Fort Saskatchewan, 15 miles northeast of Edmonton, Alta. It is here that the nickel and copper concentrates from the new mine at Lynn Lake, Man., will be treated.

Employment

Although total non-farm output in 1954 was approximately the same as in 1953, the over-all level of non-agricultural employment was about 1 p.c. lower. In the durable goods industries, employment declined by about 6 p.c. in the first nine months of 1954, and in the non-durable goods industries by about 3 p.c.; these declines were only partly offset by the continued growth of employment in the service industries. With a slightly lower employment level, therefore, and an increase in both the population and the labour force from 1953 to 1954, there was a somewhat larger number of persons without jobs and seeking work in the later year. For the first nine months of 1954, persons without jobs and seeking work constituted 4.3 p.c. of the labour force compared with 2.6 p.c. in the same period of 1953.

Prices

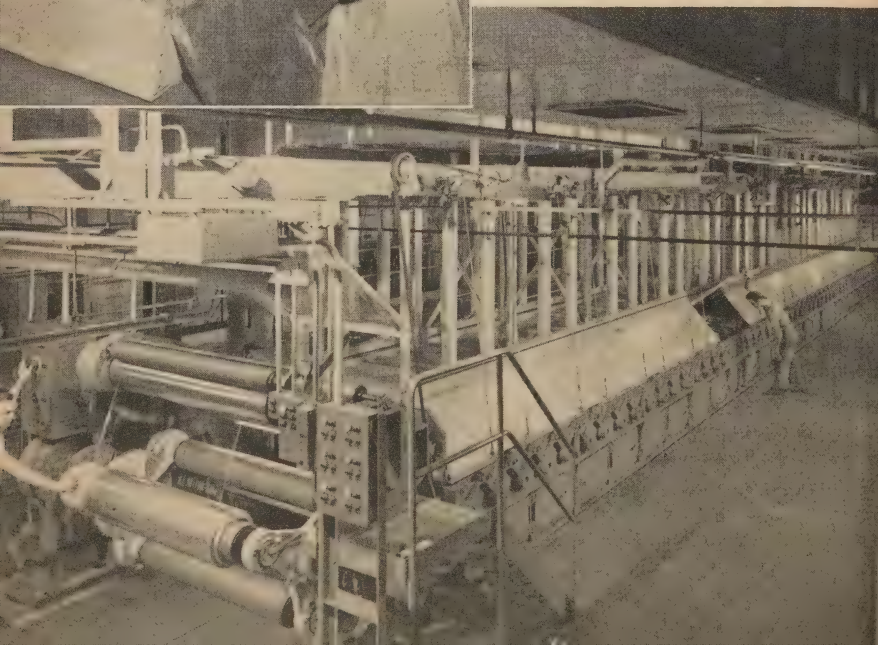
Prices were comparatively stable in 1954, with the exception of those for certain farm products. The sharp rise in world prices in 1950 and 1951 which accompanied the out-break of hostilities in Korea was followed by a decline which levelled off in 1952. Since that time the general level of prices in Canada has shown little change. The consumer price index in 1954 was approximately unchanged from 1953 and 1952, and the index of wholesale prices was 1.5 p.c. below 1953 and 4 p.c. below 1952. Increased world output of both raw materials and manufactured goods was a major factor in the stability of prices, as was the renewed competitive vigour of international trade. Export prices were slightly lower in 1954 than in the preceding year and import prices were slightly higher so that there was a small deterioration in the terms of trade.

Production

An analysis of Canadian production by industry in 1954 indicates that substantial shifts occurred in the composition of output compared with the preceding year. Total manufacturing production was 5 p.c. below 1953 in the first nine months of 1954. Within manufacturing, declines were widespread in the durable goods field, where a drop of 9 p.c. occurred. As stated previously, this development reflected inventory liquidations, reduction in defence spending, falling purchases of consumer durable items, and reduced investment in new machinery and equipment, both on and off the farm. Production of primary iron and steel products and motor-vehicles each declined by 23 p.c. Activity in the electrical apparatus and supplies industry



Cellophane cellulose film, which has revolutionized the principles of food packaging, rolls through a casting machine.



council of twelve business and professional spokesmen from the four Atlantic Provinces held its first meeting in September 1954 at Halifax and laid foundations for the conducting of an exhaustive survey of the economic affairs of the Atlantic Region.



showed a more moderate decline, reduced output in some fields being offset by a sharp increase in the production of television sets. In the non-durable goods sector, a reduction in output of 1 p.c. occurred, associated mainly with a drop in output of clothing and textiles; at the same time, there were substantial liquidations of clothing and textile products. Partly offsetting the decline in this group, higher production occurred in foods and beverages, chemical products, tobacco products, paper products and petroleum products. Most of these gains were mainly associated with higher consumer purchases, while some were related to the growth in resource development.

In the primary industries, as indicated earlier, agricultural output declined substantially because of the large drop in grain output. Production of live stock, poultry and dairy products, however, recorded advances over 1953.

Operations in the woods showed a moderate increase; declines in logging operations occasioned by reduced activity in sawmills and shingle mills were more than offset by an increase of 19 p.c. in pulpwood production. In the second half of 1954, the vigorous housing programs in Canada and United States, together with a rising level of industrial production in the United Kingdom stimulated demand for Canadian wood products. A moderate gain was also recorded in primary fisheries operations, the result largely of increased cod landings off the East Coast and the plentiful run of sockeye salmon off British Columbia.

One of the most significant advances in output in the review year occurred in mineral production which rose by more than 10 p.c. in the first nine months. Metal output increased by 4 p.c., as copper, nickel and lead showed substantial advances. Zinc and gold production, although lower than the year previously, picked up toward mid-year. These increases were related to stronger export demand reflecting, in turn, a high level of economic activity in the United Kingdom, work stoppages of Chilean and United States copper producers, and a resumption of United States government stockpiling of zinc and lead. Output of crude petroleum and natural gas showed marked gains, as resource development in Alberta continued strong. Coal output, on the other hand, continued to decline, reaching its lowest level in seven years, as other sources of energy were substituted for it.

In the public utilities sector, production of electric power continued to advance, gaining about 3 p.c. over 1953. Distribution of natural gas increased sharply, while production and sales of manufactured gas rose very little.

On balance, output of the primary goods industries, other than agriculture, was appreciably higher than in 1953.

The general level of construction activity fell off by nearly 5 p.c. in the first nine months of the year. Housing construction, however, showed an appreciable gain over the preceding year, as previously indicated. Offsetting the gain in housing, there were declines in other sectors of the construction industry. Industrial construction fell off in 1954, reflecting in part unfavourable weather conditions and in part the completion of a number of important resource development projects. Several of these new enterprises are now in production, and their gradually expanding output is showing up in the production of other industries.

All groups of service showed increases with the exception of transportation, communication and storage. The latter group declined as a result of reduced shipments of grain, associated with falling export markets, and lower shipments of automobiles, machinery, and primary iron and steel products. Partly offsetting these declines, activity in air and truck transportation and oil pipelines increased. The communication sub-group also increased as the rise in telephone and telegraph services and the rapid expansion in television transmission continued. Thus, even within transportation, communication and storage, long-run growth factors partially offset substantial declines in a number of component sub-groups.

Retail and wholesale trade activity rose fractionally in 1954—a lower volume of sales by motor-vehicle dealers, clothing and shoe stores and some other trades was more than offset by rising sales by food stores, department and variety stores, garages and filling stations and other businesses. Government, health, educational, recreational and business services also recorded advances from the 1953 level.

National Income

In the first nine months of 1954, national income (the sum of earnings of the factors of production) was 3 p.c. below the 1953 level. Wages and salaries, which declined slightly in the first quarter of 1954, continued their upward trend as the year progressed, averaging about 1.5 p.c. higher than in 1953, as average hourly earnings continued to rise. As production levelled out, corporation profits declined but dividend payments were maintained. Rental incomes and other types of investment income rose in 1954, partly offsetting the decline in profits; for the first nine months of the year, total investment income including corporation profits was only 4 p.c. below 1953. The damage to the western grain crop reduced accrued net income of farm operators from farm production by approximately one-third. As grain deliveries fell less sharply than crop production, cash receipts by farmers were down by only 13 p.c.; the reduction, moreover, in accrued net farm income reflects the smaller accumulation of grain inventories. Net income of non-farm unincorporated businesses declined about 4 p.c. in 1954.

The decline in national income was not matched by a corresponding drop in personal income, because, as noted previously, the flow of interest, dividends, rents and government transfer payments increased. Moreover, people were spending a higher proportion of their incomes in 1954, with the result that the rate of personal saving showed some decline.

Gross National Expenditure

Turning to the disposition of the nation's production in 1954, consumer expenditure and housing were the only two demand categories to show increases over 1953; government expenditures for goods and services, business outlays for new plant, equipment and machinery, and exports were all lower than in the previous year.

For the first nine months of 1954, total personal expenditure on consumer goods and services was 3 p.c. higher than in the preceding year, with a decline of 5 p.c. in durable goods being more than offset by increases of 2 p.c. and 7 p.c., respectively, in non-durable goods purchases and in outlays for services. In the latter two groups, expenditures for such items as food, education, recreation and rents increased steadily throughout the year. In the durable goods group, there was a marked increase in television sales as new transmission stations came into operation, but sales of new automobiles and

A new British Columbia oil refinery under construction. Production of this project will eventually run to about 6,000,000 gals. of refined products each month, ranging from gasoline to tar.



electrical appliances generally were substantially lower. Outlays for new housing were 9 p.c. higher in the first nine months of the year than in 1953.

Government expenditures on goods and services in 1954 were running 2 p.c. below 1953 levels, reflecting the influence of lower outlays for national defence. It may be noted that defence expenditure (on the national accounts basis) in the first nine months of 1954 was more than 10 p.c. below 1953; the cumulative outlays for the year ended Sept. 30, 1954, amounted to \$1,755,000,000 compared with \$1,941,000,000 for the comparable preceding period. An increase in provincial government expenditure on goods and services reflects higher investment outlays, and the increase in municipal government expenditures was associated with the recent high volume of new housing construction.

As previously indicated, business investment in new plant, machinery and equipment appears to have fallen short of the 1953 level. There was a shift in the composition of the investment program in 1954 toward institutional developments such as schools and hospitals, and toward the service industries such as the financial and trade groups; investment in basic manufacturing facilities in the heavy industries and in resource development appear to have taken a smaller share of investment outlays in 1954.

The levelling-off of the defence build-up and a general easing of expansionary forces in 1954, together with the drop in consumer demand for durable goods was accompanied by substantial liquidations of business inventories; especially textiles, clothing and manufactured metal products. The magnitude of the liquidation is indicated by the shift from inventory accumulation in the third quarter of 1953 amounting to \$500,000,000 at annual rates to net liquidation in the third quarter of 1954 of approximately the same amount. This reversal was equivalent to about \$1,000,000,000 of new production, or 4 p.c. of Gross National Product. Thus, a major portion of the falling-off in demand in 1954 can be ascribed to developments in the inventory sector.

In the field of foreign trade, both exports and imports of goods and services showed declines from 1953. A deficit of approximately \$300,000,000 on current account occurred in the first nine months of 1954, but this was more than offset by continued capital inflows from abroad which were related to resource development, purchases of government securities and other forms of investment. The value of the Canadian dollar in 1954 was at an average premium of about 2 p.c. in terms of the United States dollar.

Declines in wheat exports, associated in part with high levels of world grain production, accounted for a major portion of the decline in total exports. Exports of metals strengthened as the year progressed and exports of wood products rose substantially above 1953 levels; these developments were associated with rising levels of European production, the large housing program in the United States, and the recent improvement in the base-metals market. Declines in imports in 1954 were more widespread, with major decreases occurring in raw cotton and wool and their products, farm implements and machinery, and automobiles and parts. These developments were related in part to lower outlays for consumer durable goods, lower investment in machinery and equipment, and the inventory liquidations noted above.

Thus the softening in business activity (apart from the farm sector) in 1954 was associated mainly with a decline in durable goods manufacturing production which, in turn, reflected changes in the demand pattern.

National Income and Gross National Product and Gross National Expenditure, by Quarter, 1953 and 1954

(Millions of dollars)

NOTE.—To facilitate comparisons between quarters and to indicate at what levels the various sectors of the economy are operating, the data have been adjusted for seasonal variation. That is to say, the average amount that activity normally rises or falls as a result of changing seasons (e.g., purchases of coal, summer clothing, Christmas gifts) has been eliminated, so that the underlying movements stand out more prominently.

Item	1953					1954		
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year	First Quarter	Second Quarter	Third Quarter
Income								
Wages, salaries and supplementary labour income.....	11,408	11,672	11,728	11,836	11,661	11,700	11,816	11,960
Military pay and allowances.....	280	308	316	332	309	336	368	380
Investment income.....	3,888	3,856	3,688	3,544	3,744	3,620	3,648	3,636
Accrued net income of farm operators from farm production.....	1,672	1,404	1,668	1,852	1,649	1,256	1,004	1,040
Net income of non-farm unincorporated business.....	1,636	1,680	1,668	1,736	1,680	1,572	1,576	1,600
Net National Income at Factor Cost.....	18,884	18,920	19,068	19,300	19,043	18,484	18,412	18,616
Indirect taxes less subsidies.....	2,844	2,940	2,984	2,864	2,908	2,916	2,920	2,884
Depreciation allowances and similar business costs.....	2,236	2,320	2,368	2,420	2,336	2,372	2,488	2,508
Residual error of estimate.....	+204	-84	+196	-64	+63	+100	-120	-256
Gross National Product at Market Prices.....	24,168	24,096	24,616	24,520	24,350	23,872	23,700	23,752
Gross national product at market prices excluding accrued net income of farm operators.....	22,496	22,692	22,948	22,668	22,701	22,616	22,696	22,712
Expenditure								
Personal expenditure on goods and services....	14,996	15,080	15,192	15,392	15,165	15,392	15,560	15,716
Government expenditure on goods and services....	4,460	4,320	4,568	4,284	4,408	4,356	4,244	4,512
Gross Domestic Investment—								
New residential construction.....	1,020	1,000	1,044	1,180	1,061	1,104	1,000	1,224
New non-residential construction.....	1,588	1,660	1,864	1,792	1,726	1,584	1,552	1,620
New machinery and equipment.....	2,028	1,832	2,044	1,784	1,922	1,820	1,804	1,740
Change in inventories.....	708	612	472	496	572	156	-308	-924
<i>Business inventories only.....</i>	<i>304</i>	<i>676</i>	<i>492</i>	<i>32</i>	<i>376</i>	<i>248</i>	<i>-200</i>	<i>-556</i>
Exports of goods and services.....	5,316	5,564	5,648	5,152	5,420	5,016	5,160	5,208
Less: Imports of goods and services.....	-5,740	-6,056	-6,020	-5,624	-5,860	-5,456	-5,432	-5,604
Residual error of estimate.....	-208	+84	-196	+64	-64	-100	+120	+260
Gross National Expenditure at Market Prices.....	24,168	24,096	24,616	24,520	24,350	23,872	23,700	23,752

Source and Disposition of Personal Income, by Quarter, 1953 and 1954

(Millions of dollars)

NOTE.—See headnote to table on p. 207.

Source and Disposition	1953					1954		
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year	First Quarter	Second Quarter	Third Quarter
Source								
Wages, salaries and supplementary labour income.....	11,408	11,672	11,728	11,836	11,661	11,700	11,816	11,960
Less: Employer and employee contributions to social insurance and government pension funds.....	-368	-384	-388	-404	-386	-372	-396	-400
Military pay and allowances.....	280	308	316	332	309	336	368	380
Net income received by farm operators from farm production ¹	1,468	1,516	1,528	1,952	1,616	1,204	988	940
Net income of non-farm unincorporated businesses.....	1,636	1,680	1,668	1,736	1,680	1,572	1,576	1,600
Interest, dividends and net rental income of persons.....	1,648	1,668	1,788	1,652	1,689	1,804	1,884	1,960
Transfer Payments to Persons—								
From government (excluding interest)....	1,452	1,452	1,448	1,524	1,469	1,588	1,608	1,564
Charitable contributions by corporations	28	32	32	28	30	24	28	28
Net bad-debt losses of corporations.....	24	28	28	32	28	28	28	28
Personal Income.....	17,576	17,972	18,148	18,688	18,096	17,884	17,900	18,060
Disposition								
Personal Direct Taxes—								
Income taxes.....	1,276	1,288	1,292	1,292	1,287	1,252	1,260	1,260
Succession duties.....	76	68	80	68	73	68	68	76
Miscellaneous.....	80	72	68	68	72	72	64	52
Total Personal Direct Taxes.....	1,432	1,428	1,440	1,428	1,432	1,392	1,392	1,388
Personal Expenditure on Consumer Goods and Services—								
Non-durable goods....	8,584	8,744	8,752	8,820	8,725	8,840	8,984	8,980
Durable goods.....	1,872	1,720	1,756	1,764	1,778	1,740	1,620	1,704
Services.....	4,540	4,616	4,684	4,808	4,662	4,812	4,956	5,032
Total Personal Expenditure on Consumer Goods and Services	14,996	15,080	15,192	15,392	15,165	15,392	15,560	15,716
Personal Saving—								
Personal saving excluding farm inventory change.....	1,164	1,572	1,640	1,416	1,448	1,348	1,264	1,056
Farm inventory change	-16	-108	-124	+452	+51	-248	-316	-100
Total Personal Saving...	1,148	1,464	1,516	1,868	1,499	1,100	948	956
Personal Income.....	17,576	17,972	18,148	18,688	18,096	17,884	17,900	18,060
Personal disposable income ²	16,144	16,544	16,708	17,260	16,664	16,492	16,508	16,672

¹ This item differs from line 4 in the table on p. 207 in that it excludes undistributed earnings (and the inventory valuation adjustment) of the Canadian Wheat Board. ² Personal income less total personal direct taxes.



Across the shipping lanes of Burrard Inlet, shine the lights of Vancouver Canada's third largest city.



George Hunter

Toronto's Golden Mile—symbolizing the advance of manufacturing production and its growing diversity in the most highly industrialized area of Canada. Factory after factory, built on modern clean, flat and functional lines, displays in chrome or neon a brand name familiar to consumers from one end of the country to the other.

THE OPERATION OF THE ECONOMY

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The task of operating the Canadian economy—currently valued in terms of gross national product at \$24,000 million—is heroic for a nation of 15,000,000 spread sparse over three and three-quarter million square miles, a truly continental territory to administer and develop.

Canada's geography imposes heavy burdens on the Canadian economy and on the machinery of trade, transport and communication, of labour and finance, which enables the nation's work and business to be carried on. But it is done—and with outstanding success—by the application of twentieth century techniques to the realities of the Canadian environment—an environment whose basic topographic structure, inherited through the long geologic ages, presents formidable barriers to development.

It is done by a far-flung domestic and foreign-linked transport and communications empire, interlaced with a modern financial network, which, combined with the enterprise of Canadian business and the skill and adaptability of Canadian labour, has projected Canada into the third rank among the trading nations of the world and has given the Canadian household a standard of living among the world's highest.

Domestic and Foreign Trade

• Domestic Trade

A REVIEW of all aspects of domestic trade would require the coverage of a great number of activities dealing with the flow of goods in the country through all the channels of distribution. It would also require the inclusion of transportation of various kinds at all levels and the following of the distribution of goods through manufacturers' warehouses, wholesale houses and retail stores with all attendant agencies and services. A still broader concept of domestic trade would include professional care, education and a large assortment of service trades. Such detail is not possible in the limited space available and only certain phases of the merchandising field are therefore covered here. The data include summary results of the 1951 Census of Distribution as well as some current statistics. This information is followed by brief data on prices which are an integral part of wholesale and retail sales.

Merchandising

Wholesale Census.—Details of the 1951 Wholesale Census are available in Census Vol. VIII. The information given here is necessarily very brief but will give some indication of the magnitude of wholesale operations in Canada and of their place in the economy.

Within the scope of wholesale trade are those entrepreneurs who relay goods from the producer direct to the retailer for resale to household consumers and also those whose principal trade is with business and other large establishments purchasing goods for their own use. Complementary to these types of operation are the wholesalers who facilitate this relay of goods, either by bringing buyer and seller together or by buying goods for subsequent trading within the wholesale field. Thus there is a considerable volume of trade between the various types of wholesalers, and it follows that the sum of the sales of all components overstates the actual value of goods moving out of the wholesale field. Wholesale establishments are therefore classified by type of operation, thus separating the segments that tend to duplicate one another.

Wholesale Trade, by Major Type of Operation, 1941 and 1951

Item	1941	1951
Wholesalers Proper—		
Establishments..... No.	9,417	10,493
Sales, total..... \$'000	2,358,475	5,492,741
Own account..... \$'000	2,315,882	5,393,607
Commission..... \$'000	42,593	99,134
Petroleum Bulk Tank Stations—		
Establishments..... No.	3,973	3,886
Sales, total..... \$'000	216,292	1,020,248
Own account..... \$'000	156,078	781,694
Commission..... \$'000	60,214	238,554
Assemblers of Primary Products—		
Establishments..... No.	7,366	7,179
Sales, total..... \$'000	453,300	1,517,617
Own account..... \$'000	434,059	622,986
Commission..... \$'000	19,241	894,631



Grain elevators at the Lakehead between Fort William and Port Arthur, Ont.

Wholesale Trade, by Major Type of Operation, 1941 and 1951—concluded

Item		1941	1951
Manufacturers' Sales Branches and Offices—			
Establishments.....	No.	1,622	2,703
Sales, total.....	\$'000	1,206,993	3,794,925
Own account.....	\$'000	1,189,573	3,689,613
Commission.....	\$'000	17,420	105,312
Agents and Brokers—			
Establishments.....	No.	2,106	1,741
Sales, total.....	\$'000	907,520	2,493,563
Own account.....	\$'000	38,989	147,819
Commission.....	\$'000	868,531	2,345,744
Other Types of Operation—			
Establishments.....	No.	274	165
Sales, total.....	\$'000	148,168	78,944
Own account.....	\$'000	143,759	76,933
Commission.....	\$'000	4,409	2,011
Totals—			
Establishments.....	No.	24,758	26,167
Sales, total.....	\$'000	5,290,750	14,401,037
Own account.....	\$'000	4,278,341	10,714,878
Commission.....	\$'000	1,012,409	3,686,159

Summary Statistics of Wholesale Establishments, by Type of Operation, 1951

Type of Operation	Estab- lish- ments	Total Sales	Working Propri- etors	Average Em- ployees	Payroll	Total Stocks Dec. 31
	No.	\$'000	No.	No.	\$'000	\$'000
Wholesalers Proper	10,486	5,492,741	6,222	118,164	312,140	674,160
Drop shippers and desk job- bers.....	126	82,642	77	502	1,657	3
Export merchants.....	100	175,800	45	1,200	2,451	6,180
Import merchants.....	1,637	991,044	660	17,896	51,594	157,216
Mail-order wholesalers.....	98	34,566	51	1,000	2,450	5,097
Voluntary group wholesalers.	139	375,047	25	5,284	13,663	28,746
Wagon distributors.....	106	14,090	92	294	696	557
Wholesale merchants.....	8,280	3,819,552	5,272	91,988	239,629	476,361
Petroleum Bulk Tank Sta- tions	3,880	1,020,249	2,958	14,594	38,597	78,974
Commission stations.....	2,583	238,627	2,604	2,634	4,984	18,525
Independent stations.....	534	60,622	354	1,154	2,847	4,857
Salary stations.....	763	721,000	—	10,806	30,766	55,592
Assemblers of Primary Prod- ucts	7,177	1,517,617	1,458	20,387	43,483	151,675
Buyers of primary products..	1,528	565,853	1,426	8,355	17,113	20,527
Co-operative selling organiza- tions.....	356	299,484	—	4,118	6,767	12,146
Grain elevators.....	5,285	650,937	27	7,825	19,481	118,961
Packers and shippers.....	8	1,343	5	89	122	41
Manufacturers' Sales Branches and Offices	2,702	3,794,925	7	39,409	121,491	250,610
District or general sales of- fices.....	26	473,800	—	1,412	5,241	16,838
Manufacturers' sales branches (without stocks).....	683	1,121,645	1	5,601	19,936	—
Manufacturers' sales branches (with stocks).....	1,993	2,199,480	6	32,396	96,314	233,772
Agents and Brokers	1,741	2,493,563	1,259	7,473	23,101	78,220
Auction companies.....	14	26,887	4	301	498	5,819
Brokers.....	94	581,373	82	209	614	321
Commission merchants.....	197	367,566	118	1,816	5,589	26,929
Export agents and brokers...	44	559,690	4	460	1,586	24,436
Import agents and brokers...	278	156,231	175	1,108	3,834	5,310
Manufacturers' agents.....	1,051	477,589	856	3,260	9,829	12,908
Purchasing agents and resi- dent buyers.....	36	145,435	17	136	419	1,452
Selling agents.....	27	178,792	3	183	732	1,045
Other	165	78,944	69	1,504	4,108	2,708
Totals, All Establish- ments	26,167	14,401,037	11,989	201,592	543,048	1,237,110

Some of the more important facts brought to light by the 1951 Census are:—

- Sales turnover of all types of wholesalers greatly out-distanced the population growth in Canada between 1941 and 1951. While population increased from 11,500,000 in 1941 to 14,000,000 in 1951, wholesalers' sales volume increased from \$5,300,000,000 to \$14,400,000,000.
- Ontario accounted for 30.4 p.c. of the total wholesale sales in 1951, Quebec for 28.0 p.c., the three Prairie Provinces for 27.3 p.c., British Columbia for 9.3 p.c., and the Atlantic Provinces for 5.0 p.c.
- Wholesalers proper were the most important type of wholesalers in both 1941 and 1951; they accounted for 40 p.c. of the number and 38 p.c. of the sales in 1951.
- Of all types of wholesalers' operations, manufacturers' sales offices and branches showed the greatest increase in number of establishments between 1941 and 1951.
- A maximum of some 225,000 people were employed in wholesaling in 1951 and the payroll amounted to \$543,000,000.

Service Census.—The service segment of the Census of Distribution covers those establishments whose main activity is the rendering of service, including theatres, bowling alleys, dry-cleaning plants, hotels, service garages, taxis operating from stands, and advertising agencies. Excluded are professional services, such as doctors, lawyers and accountants; trade services, such as carpenters, plumbers and electricians; public utilities, such as gas, electricity and water; domestic service; and air, rail and boat transportation.

Canada's weekly meat order amounts to about 36,000,000 lb. and the filling of that order requires the co-ordinated effort of the farmer, the packer and the retail butcher assisted by transportation agencies, cold-storage warehouses, government services and innumerable suppliers of all kinds.

Stockyards at St. Boniface, Man.



Number and Receipts of Selected Types of Service Establishment, 1941 and 1951

Kind of Business	Establishments		Receipts		
	1941	1951	1941	1951	F.C. Change 1941-51
	No.	No.	\$'000	\$'000	
Amusement and Recreation....	4,954	5,564	61,344.8	150,973.2	+146.1
Regular theatres.....	1,244	1,799	41,368.8	100,371.1	+142.6
Billiard parlours.....	1,140	1,341	4,006.9	8,094.9	+102.0
Bowling alleys.....	175	428	2,067.6	8,073.4	+290.5
Business Services.....	1,334	1,788	24,431.8	117,030.8	+379.0
Advertising agencies.....	98	158	4,938.7	18,068.8	+265.9
Outdoor display and billboard advertising.....	45	56	3,266.0	9,198.6	+180.7
Collection and credit agencies....	130	132	2,048.7	7,779.8	+279.7
Personal Services.....	24,731	23,489	85,892.6	204,077.1	+137.6
Barber shops.....	8,306	7,285	15,583.4	25,740.3	+ 65.2
Barber shops and beauty parlours combined.....	604	280	2,136.1	1,957.2	- 08.4
Beauty parlours.....	5,619	5,172	12,844.4	22,143.1	+ 72.4
Dry-cleaning and dyeing plants..	594	1,040	13,925.6	43,426.4	+211.8
Shoe repair shops.....	4,797	4,268	10,039.7	16,424.4	+ 63.6
Repair Services.....	11,932	12,154	37,512.1	132,987.9	+254.5
Automobile service garages.....	1,509	3,493	8,747.3	56,973.3	+551.3
Body repairs and paint shops.....	422	832	4,140.6	15,786.8	+281.3
Blacksmith and general repair shops.....	4,692	2,818	7,346.9	8,535.6	+ 16.2
Radio and electrical repair and service shops.....	528	1,051	1,521.7	9,386.9	+516.9
Undertaking and Funeral Serv- ices.....	1,225	1,091	13,131.9	30,686.2	+133.7
Photography.....	1,078	1,289	6,901.3	17,189.3	+149.1
Commercial photographers.....	83	106	703.9	3,417.3	+385.5
Portrait photographers.....	834	1,057	4,770.6	10,425.8	+118.5
Hotels and Tourist Camps.....	..	8,741	..	370,911.2	...
Full year hotels, licensed.....	..	3,292	..	311,321.3	...
Full year hotels, non-licensed....	..	1,036	..	25,441.8	...
Miscellaneous Services.....	4,017	4,632	25,463.4	61,902.2	+143.1
Taxis.....	2,570	3,664	14,923.3	47,315.3	+217.1
Cold storage locker plants.....	1	164	1	3,326.8	...
Totals, All Establishments..	49,271	58,748	254,677.9	1,085,757.9	+326.3

¹ Not comparable.

Summary Statistics of Service Establishments, by Province, 1951

Province or Territory	Establish- ments	Receipts	Working Proprietors	Paid Employees		Payroll
				Min.	Max.	
	No.	\$'000	No.	No.	No.	\$'000
Newfoundland.....	650	7,221	643	1,099	1,287	1,589
Prince Edward Island.....	367	2,793	389	559	707	620
Nova Scotia.....	2,050	22,553	1,993	4,151	5,571	5,540
New Brunswick.....	1,600	18,719	1,545	2,896	3,768	3,869
Quebec.....	16,501	280,146	16,929	37,369	47,550	63,331
Ontario.....	20,540	415,313	20,433	56,782	75,914	106,858
Manitoba.....	3,117	66,656	3,189	8,669	11,096	15,197
Saskatchewan.....	3,771	57,105	3,758	6,432	8,032	10,042
Alberta.....	4,227	94,337	4,091	10,580	15,214	20,825
British Columbia.....	5,848	118,452	5,662	15,065	20,634	31,302
Yukon and N.W.T.....	77	2,463	72	198	275	536
Canada.....	58,748	1,085,758	58,704	143,800	190,048	259,709

Some of the more noteworthy results of the Service Census are:—

- Canadians spent more than \$1,000,000,000 in service establishments in 1951 compared with \$10,700,000,000 in retail stores.
- The 200,000 people employed in these establishments in 1951 received about \$260,000,000 in salaries and wages.
- Between 1941 and 1951, several kinds of business in the personal service group declined in number of establishments, particularly barber shops, beauty parlours and shoe repair shops.
- The business group of establishments showed the greatest increase in dollar volume of business in the ten-year period.
- The hotel and tourist group accounted for receipts of \$370,000,000 in 1951, more than one-third of the receipts of all service establishments.

Intercensal Surveys.—Though the decennial Census of Distribution produces complete coverage of statistics on retail and wholesale trade, certain surveys are continued between the census years. Some of these surveys are conducted on a sample basis and use the census results as a base from which to project trends and obtain reliable estimates. Other continuing surveys are made on a complete coverage basis once a year.

Retail Trade.—The retail store is the main channel for the distribution of goods to the consumer and during 1954 such stores sold merchandise to the extent of \$11,928,800,000, an estimate lower by 1 p.c. than that for 1953. The decrease was attributed to lower dollar volume of business in motor-vehicles, hardware, lumber, restaurants and general stores, furniture and appliances as well as in most clothing trades. In 1953, Saskatchewan showed the greatest increase over the previous year among the provinces, but in 1954 recorded the greatest loss.

Retailing is the core of business activity. With the exception of certain government purchases, every product produced enters into the retail picture at one time or another and every employee in industry works ultimately for the consumer.



Retail Store Sales, by Selected Types of Business and by Province, 1952-54

Type of Business and Province	Sales			Percentage Change 1953-54
	1952	1953	1954	
Type of Business	\$'000,000	\$'000,000	\$'000,000	
Grocery and combination stores.....	2,039.5	2,095.0	2,235.0	+ 6.7
Meat stores.....	164.4	167.7	173.9	+ 3.7
General stores.....	546.3	536.7	527.5	- 1.7
Department stores.....	996.0	1,024.7	1,059.2	+ 3.4
Variety stores.....	213.7	222.2	230.3	+ 3.6
Motor-vehicle dealers.....	2,119.2	2,286.0	2,091.8	- 8.5
Garages and filling stations.....	503.7	534.5	545.7	+ 2.1
Men's clothing stores.....	209.4	206.4	189.7	- 8.1
Family clothing stores.....	203.2	205.9	197.7	- 4.0
Women's clothing stores.....	203.8	209.3	203.7	- 2.7
Shoe stores.....	116.4	118.6	113.1	- 4.6
Hardware stores.....	235.0	246.6	237.8	- 3.6
Lumber and building-material dealers.....	380.1	414.0	398.6	- 3.7
Furniture stores.....	177.7	184.2	178.0	- 3.4
Appliances and radio stores.....	254.2	274.3	263.9	- 3.8
Restaurants.....	457.1	449.6	433.0	- 3.7
Fuel dealers.....	234.5	222.6	231.6	+ 4.0
Drug stores.....	267.1	273.1	274.7	+ 0.6
All other stores.....	2,254.3	2,356.2	2,343.6	- 0.5
Totals.....	11,575.5	12,027.6	11,928.8	- 0.8
Province				
Atlantic Provinces.....	978.0	1,005.8	1,005.1	- 0.1
Quebec.....	2,662.9	2,763.5	2,793.0	+ 1.1
Ontario.....	4,387.9	4,569.4	4,624.4	+ 1.2
Manitoba.....	645.2	671.8	655.0	- 2.5
Saskatchewan.....	762.4	815.4	718.9	-11.8
Alberta.....	944.1	978.4	907.7	- 7.2
British Columbia (incl. Yukon and N.W.T.)	1,194.9	1,223.4	1,224.7	+ 0.1

Retail chain store sales increased from \$1,929,750,000 in 1952 to a total of \$2,048,228,000 in 1953. Salaries amounting to \$171,167,000 were paid to the store employees of the 7,835 stores. Firms considered as retail chains are those operating four or more retail outlets under the same ownership and carrying on the same or related kinds of business.

Chain Store Statistics, 1941 and 1946-53

NOTE.—Includes Newfoundland from 1951.

Year	Stores	Retail Sales	Salaries to Store Employees	Stocks on Hand, End of Year		Accounts Outstanding, End of Year
				Store	Warehouse	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1941.....	7,622	639,210	57,777	68,619	20,976	38,376
1946.....	6,559	1,014,847	77,474	85,345	37,436	19,643
1947.....	6,716	1,177,323	91,266	105,041	43,546	31,493
1948.....	6,821	1,335,735	107,450	119,132	46,330	40,378
1949.....	6,839	1,420,081	115,903	123,696	46,755	50,001
1950.....	7,155	1,559,693	129,334	159,083	60,501	65,001
1951.....	7,585	1,726,354	144,792	178,799	59,504	53,169
1952.....	7,660	1,929,750	154,980	176,699	56,821	79,517
1953.....	7,835	2,048,228	171,167	179,704	52,096	91,538

It is estimated that 309,138 new motor-vehicles were sold in 1954, considerably fewer than in 1953. The percentage of these cars financed was about the same in the two years.



Streamlined methods expedite express service and provide smooth flow even at peak periods of traffic. Way bills are transcribed rapidly through the use of tape recorders—the callers' instructions are recorded and transmitted through playback machines on the billers' desks.



New Passenger-Car Sales and Financing, 1952-54

Province	1952			1953			1954		
	Sold		Financed	Sold		Financed	Sold		Financed
	No.	No.	p.c.	No.	No.	p.c.	No.	No.	p.c.
Atlantic Provinces.	21,529	9,737	45.2	26,595	12,000	45.1	24,134	10,845	44.9
Quebec.....	58,756	27,507	46.8	70,889	32,615	46.0	64,922	30,067	46.3
Ontario.....	124,624	48,874	39.2	157,058	58,029	36.9	141,330	56,202	39.8
Manitoba.....	16,351	6,570	40.2	19,278	7,419	38.5	15,191	5,343	35.2
Saskatchewan.....	19,488	7,952	40.8	23,909	8,616	36.0	16,489	6,192	37.6
Alberta.....	25,174	13,251	52.6	29,463	15,855	53.8	21,742	10,819	49.8
British Columbia..	26,132	10,885	41.7	32,829	12,918	39.3	25,330	9,018	35.6
Totals.....	292,054	124,776	42.7	360,021	147,452	41.0	309,138	128,486	41.6

Services.—The 1953 receipts of Canadian hotels exceeded \$410,000,000, a 5-p.c. increase over the previous year. Sixty-seven per cent of the 5,209 hotels were licensed to sell alcoholic beverages and, in those, 57 p.c. of the revenue was derived from the sale of alcoholic beverages. Room occupancy (that is, the number of rooms times the number of days they were occupied) in hotels with more than 500 rooms was reported as 77 p.c. of potential (that is, the number of rooms times the number of days the rooms were available for occupancy). The smallest hotels had a room occupancy of only 27 p.c. of potential. During 1953, salaries of \$96,249,000 were paid to an average of 59,376 persons employed in hotels.

Hotels, Rooms and Receipts, by Province, 1953, with Totals for 1951 and 1952

Province and Year	Hotels	Rooms	Receipts			
			Rooms	Meals	Beer, Wine and Liquor	Total
	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	27	815	677	899	687	2,553
Prince Edward Island..	26	710	328	254	—	633
Nova Scotia.....	149	3,940	2,778	2,535	279	6,199
New Brunswick.....	103	3,262	2,155	1,423	—	4,003
Quebec.....	1,555	40,325	23,661	19,026	48,154	98,979
Ontario.....	1,536	46,740	30,288	26,994	62,674	132,143
Manitoba.....	287	8,078	4,460	2,687	19,128	28,285
Saskatchewan.....	529	11,904	5,947	3,363	26,251	38,298
Alberta.....	452	14,746	10,850	6,780	30,545	52,900
British Columbia.....	545	19,133	12,770	7,013	22,266	46,722
Totals, 1953.....	5,209	149,653	93,914	70,974	209,984	410,715
Totals, 1952.....	5,157	149,615	89,879	67,269	201,759	391,936
Totals, 1951.....	5,092	146,441	83,322	63,440	180,642	357,282

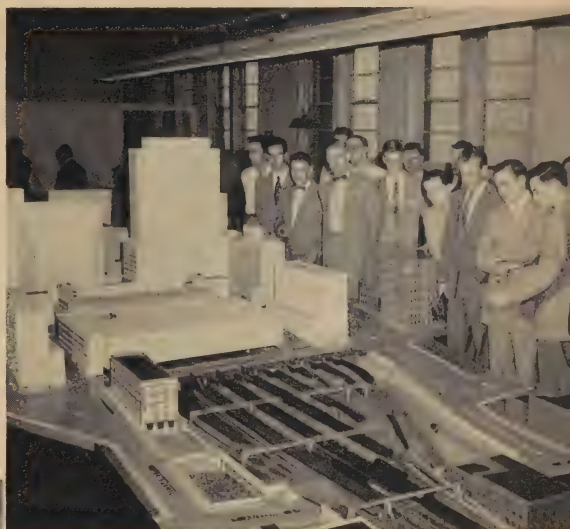
While the total receipts, excluding taxes, of motion-picture exhibitors increased by 3 p.c. from \$105,459,183 in 1952 to \$109,072,528 in 1953, there was a decrease of 1 p.c. in attendance as the number of paid admissions fell from 262,963,287 to 259,346,837 in the same period. In 1953 the per capita expenditure on motion-picture entertainment was \$8.30 compared with \$8.21 in 1952. Per capita expenditure in 1953 ranged from \$10.56 in British Columbia (including the Yukon and Northwest Territories) to \$4.03 in Newfoundland.

Motion-Picture Theatre Statistics, 1953

Item	Regular Theatres	Drive-in Theatres	Com- munity Enter- prises	Halls Served by Itinerant Operators	Total
Theatres and halls.No.	1,906	174	669	805	3,554
Receipts (excluding taxes) \$	100,889,361	5,862,920	1,851,685	468,562	109,072,528
Amusement taxes. \$	12,760,235	685,389	105,057	31,859	13,582,540
Paid admissions.No.	241,182,726	11,134,788	5,647,668	1,381,655	259,346,837

The CNR Central Station at Montreal, one of the most modern railway terminals on the Continent, is the core of a potential civic centre which will include hotel accommodation, office buildings, stores and theatres. The immediate objective is the construction of a 20-storey 1,000-room hotel.

Below is a view of the present structures and the inset shows a model of the proposed additions being scrutinized by CNR trainees.



11-Canadian fashion show before an audience of textile producers and retailers.



Canadian couturiers show imagination, beauty of design and practicability in their creations.

Co-operative Associations

During the crop year ended July 31, 1953, co-operative associations in Canada reported a total volume of business amounting to \$1,202,325,902. This volume was reported by 2,773 marketing, purchasing and service co-operatives, serving 1,500,000 members.

Co-operative Marketing.—The value of farm products marketed during 1952-53 was \$876,300,000, greater by \$36,000,000 than the value reported for 1951-52. The proportion of all farm products marketed by co-operatives was estimated to be 32.4 p.c.

Co-operative Purchasing.—Sales of merchandise and farm supplies amounted to \$256,700,000 in 1953, an increase of \$22,000,000 over the 1952 total.

Co-operative Wholesaling.—The 11 co-operative wholesales operating in Canada reported a total business of \$127,400,000 in 1952-53. Of this,

\$83,300,000 consisted of merchandise and farm supplies and \$43,900,000 represented the value of farm products marketed by the wholesales. The remaining \$200,000 represented revenue from services rendered.

Co-operative Services.—In 1953 there were 475 co-operatives rendering services to 218,000 members in medical care, housing, electrification, transportation, and other fields. Revenue of these service-type co-operatives was reported to be \$20,000,000.

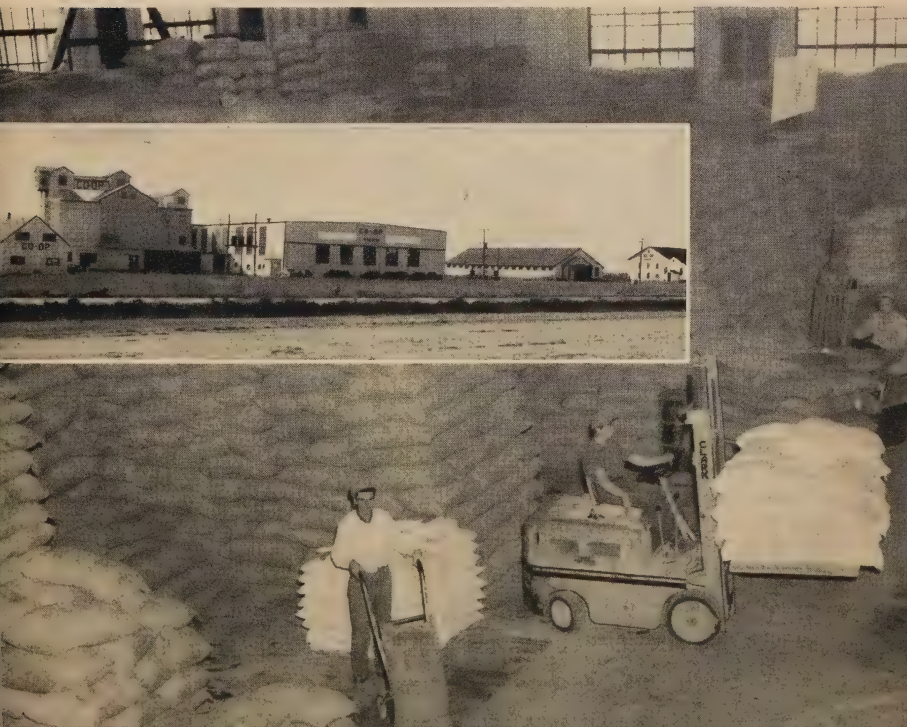
Fishermen's Co-operatives.—Every province except Alberta reported co-operatives engaged in the marketing of fish. In 1952-53, there were 77 such organizations with a membership of 15,000 doing a total business of \$21,400,000.

Credit Unions.—There were 3,607 credit unions in Canada in 1953, with a membership of 1,393,585 and assets of \$492,400,000. Loans made during the year amounted to \$204,800,000.

• Prices

Wholesale Prices.—The collection of wholesale prices by the Dominion Bureau of Statistics has extended over many years, some records going

Co-op warehouse at Moncton, N.B., showing part of a \$100,000 stock of feed and flour. Farmers in the three Maritime Provinces have found it advantageous to develop a single Maritime co-operative, servicing more than 200 local and regional co-ops. Commercial services include the marketing of live stock, poultry, wool, feed and flour, fertilizers, insecticides, seeds, machinery and groceries.



back to 1867. Prices have been collected for many purposes but used mainly in the calculation of price index numbers under various classifications. The table below contains indexes of some of the more important series.

A post-war inflationary movement caused the general wholesale price index to rise approximately 73 p.c. in six years to reach a peak of 240.2 in 1951. Prices declined slowly over the following three years to reach a level of 215.3 by December 1954. Though relative stability was experienced in 1953 and 1954, individual commodity changes were substantial during the later year. Sharp declines occurred in some agricultural items, in particular hogs, eggs, fowl, raw wool, hides and skins, raw furs and sugar. In addition, fibres, textiles and textile products were generally lower as were wire, scrap iron, crushed stone and a few organic chemicals. On the higher side were potatoes, onions, tea, coffee, imported fresh fruits, canned vegetables, steers, lead, zinc, solder, plate glass, lime, dyeing materials and soap.

Building material prices registered minor weakness in 1954. The residential building materials index changed from a 1953 average of 282.6 to 278.7 in December 1954 and in the same period the index for non-residential building materials moved down from 124.4 to 120.4 (1949=100). Among the index's more important component groups, roofing material advanced in the residential series owing to increases in cedar shingles but plumbing and heating equipment moved down owing to lower quotations for certain items of bathroom equipment. In non-residential groups the tile group advanced as did paint and glass while plumbing and heating equipment and electrical equipment and materials, among others, declined.

Annual and Monthly General Wholesale and Special-Purpose Price Indexes, 1949-54

(1935-39 = 100)

NOTE.—All 1954 indexes and Canadian farm products indexes subsequent to July 1953 are subject to revision.

Period	General Wholesale Prices	Raw and Partly Manufactured	Fully and Chiefly Manufactured	Canadian Farm Products	Residential Building Materials	Non-residential Building Materials (1949 = 100)
1949.....	198.3	197.1	199.2	228.7	228.0	100.0
1950.....	211.2	212.8	211.0	236.7	242.7	105.0
1951.....	240.2	237.9	242.4	268.6	286.2	118.6
1952.....	226.0	218.7	230.7	250.2	284.8	123.2
1953.....	220.7	207.0	228.8	220.9	282.6	124.4
1954—January.....	219.8	206.5	227.8	212.9	277.3	123.2
February.....	219.0	205.1	227.3	212.3	276.7	123.1
March.....	218.6	204.3	226.9	210.2	275.9	122.9
April.....	217.9	205.7	225.1	209.0	276.1	122.6
May.....	218.2	207.5	224.5	213.1	275.9	121.1
June.....	217.8	206.7	224.5	213.1	277.4	121.2
July.....	217.4	207.4	223.6	217.8	278.2	121.2
August.....	215.8	204.9	222.3	207.9	278.0	120.2
September.....	215.3	202.9	222.6	204.1	278.6	120.4
October.....	214.3	201.4	221.8	201.1	278.6	120.5
November.....	214.8	202.1	222.2	203.8	278.4	120.5
December.....	215.3	203.4	222.3	204.7	278.7	120.4

Consumer Prices.—In October 1952, the Dominion Bureau of Statistics issued a new series of Canadian index numbers of retail prices. This consumer price index* (on the base 1949=100) replaced the cost-of-living index as the official measurement of retail prices of goods and services. It is constructed from post-war expenditure patterns and is designed to measure the average percentage change in retail prices of goods and services bought by a large and representative group of Canadian urban families. The index is not affected by changes in standards of living.

The new index is based on goods and services purchased during the year ended Aug. 31, 1948, by 1,517 families, representing all Canadian urban families with the following characteristics: (1) living in 27 Canadian cities with over 30,000 population (1951 Census); (2) ranging in size from two adults to two adults with four children; (3) with annual incomes during the survey year ranging from \$1,650 to \$4,050.

To measure the influence of price change on the cost of goods and services purchased by such families, the consumer price index contains 224 items. The criteria as to whether or not an item was included was whether or not families bought it, and no attempt was made to differentiate between luxuries and necessities.

From the table below it is possible to compare prices for the past six years. It can be seen that prices rose rapidly reaching an annual peak in 1952, and have since fluctuated within rather narrow limits reflecting a period of relative price stability. The various components of the index have not shown the same tendency. As compared with 1952, the Food and Clothing index has been moving at somewhat lower levels, while the Other Commodities and Services index and the Household Operation and Shelter index have been advancing.

* Detailed information concerning the construction of the index is given in DBS special report, *The Consumer Price Index, January 1949-August 1952*.

Consumer Price Index Numbers, 1949-54

(Av. 1949=100)

Year and Month	Food	Shelter	Clothing	Household Operation	Other Commodities and Services	Total
1949.....	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	102.6	106.2	99.7	102.4	103.1	102.9
1951.....	117.0	114.4	109.8	113.1	111.5	113.7
1952.....	116.8	120.2	111.8	116.2	116.0	116.5
1953.....	112.6	123.6	110.1	117.0	115.8	115.5
1954.....	112.2	126.5	109.4	117.4	117.4	116.2
1954—January.....	111.6	125.4	110.1	117.5	116.4	115.7
February.....	111.7	125.4	110.0	117.5	116.5	115.7
March.....	110.7	125.6	109.8	117.6	116.6	115.5
April.....	110.4	125.6	109.9	118.1	117.2	116.6
May.....	110.2	125.8	109.9	117.3	117.5	115.5
June.....	112.0	126.4	109.7	117.1	117.5	116.1
July.....	112.1	126.6	109.6	117.2	117.6	116.2
August.....	114.4	127.0	109.6	117.2	117.7	117.0
September.....	113.8	127.2	109.5	117.2	117.6	116.8
October.....	113.8	127.4	108.4	117.3	117.9	116.8
November.....	113.4	127.9	108.2	117.2	118.2	116.8
December.....	112.6	128.2	108.1	117.1	118.2	116.6



Canadian planks and boards, mainly from the West Coast, find their way all over the world, but the United States takes the bulk of these exports. Newsprint, planks and boards, wood pulp and pulpwood together make up over one-third of all Canada's exports.

• Foreign Trade

Canada's foreign trade was moderately greater in 1953 than in any other peacetime year. However this increase resulted entirely from a further substantial advance in imports which was concentrated especially in the first half of the year. The value of exports was somewhat below the record 1952 level throughout most of 1953, and the drop was especially sharp in the latter months of the year. Imports also fell off at this time. The level of trade showed some recovery during 1954, but for the year as a whole was about 6 p.c. lower than in 1953.

Exports, Imports and Total Trade of Canada, 1950-54

(Millions of Dollars)

Year	Exports			Imports	Total Trade	Balance of Trade
	Domestic Produce	Foreign Produce	Total			
1950.....	3,118.4	38.7	3,157.1	3,174.3	6,331.3	- 17.2
1951.....	3,914.5	48.9	3,963.4	4,084.9	8,048.2	-121.5
1952.....	4,301.1	54.9	4,356.0	4,030.5	8,386.4	+325.5
1953.....	4,117.4	55.2	4,172.6	4,382.8	8,555.4	-210.2
1954.....	3,881.3	65.6	3,946.9	4,093.2	8,040.1	-146.3

The value of world trade (excluding the trade of the communist countries) reached a post-war peak in 1951, when prices of many commodities were at record levels. In both 1952 and 1953 world trade declined, although the decline in 1953 (in Canadian dollar terms) was much less than that which occurred in 1952. Canadian exports did not begin to decline until late in 1952, and imports not until late in 1953, after the declines in world trade were far advanced. World exports in 1953 were some 9 p.c. below their peak level, imports were down about 12 p.c., but Canadian exports had fallen only 4 p.c. below their peak and Canadian imports were still at record levels.

A trade agreement for the exchange of most-favoured-nation treatment between Canada and Japan was signed in 1954, by His Excellency Koto Matsudaira, Japanese Ambassador to Canada, the Hon. L. B. Pearson, Secretary of State for External Affairs, and the Rt. Hon. C. D. Howe, Minister of Trade and Commerce.



A lower level of Canadian trade in 1954 together with a higher level of world trade reduced the discrepancy between Canadian experience and that of other countries.

Canada accounted for about 6 p.c. of world trade in 1952 and 1953, and ranked third among the leading world exporters and importers in both years. Only the United States and the United Kingdom have consistently conducted a greater foreign trade than Canada in the post-war period, although France's imports exceeded those of Canada in the first half of this period, and its exports and imports were both greater than those of Canada in 1951. Germany's trade grew rapidly after 1951 and that country ranked fifth in world trade in 1952 and fourth in 1953.

Leading Countries in World Trade, 1952 and 1953

NOTE.—Countries ranked by total trade and total trade per capita in 1953. Sources of data: Trade—International Monetary Fund; Population—United Nations Statistical Office.

Country	Exports, f.o.b.		Imports, c.i.f.		Total Trade	
	1952	1953	1952	1953	1952	1953
VALUE OF TRADE (Millions of United States Dollars)						
United States.....	15,196 ¹	15,775 ¹	11,637	11,836	26,833 ¹	27,611 ¹
United Kingdom.....	7,638	7,524	9,736	9,366	17,374	16,890
Canada.....	4,761	4,609	4,479	4,842	9,240	9,451
Germany, Federal Republic.....	4,002	4,389	3,814	3,771	7,816	8,160
France.....	3,891	3,788	4,435	4,007	8,326	7,795
Belgium and Luxembourg.....	2,445	2,251	2,444	2,405	4,889	4,656
Netherlands.....	2,130	2,152	2,251	2,382	4,381	4,534
Italy.....	1,386	1,488	2,331	2,395	3,717	3,883
Japan.....	1,273	1,275	2,028	2,410	3,301	3,685
Australia.....	1,690	1,979	1,979	1,487	3,669	3,466
World Trade².....	74,179	74,883	80,107	76,280	154,286	151,163
TRADE PER CAPITA (United States Dollars)						
Canada.....	330	307	310	323	640	630
New Zealand.....	337	316	370	258	707	573
Hong Kong.....	227	213	295	301	521	515
Belgium and Luxembourg.....	271	248	271	265	543	513
Switzerland.....	228	245	250	240	478	484
Sarawak.....	246	235	215	218	461	453
Denmark.....	196	202	222	228	418	430
Netherlands.....	205	204	217	225	422	429
Sweden.....	220	206	243	220	463	425
Trinidad and Tobago.....	202	221	214	204	416	425

¹ Includes military aid extended to other countries.
and eastern European countries not reporting trade currently.

² Exclusive of China, USSR,

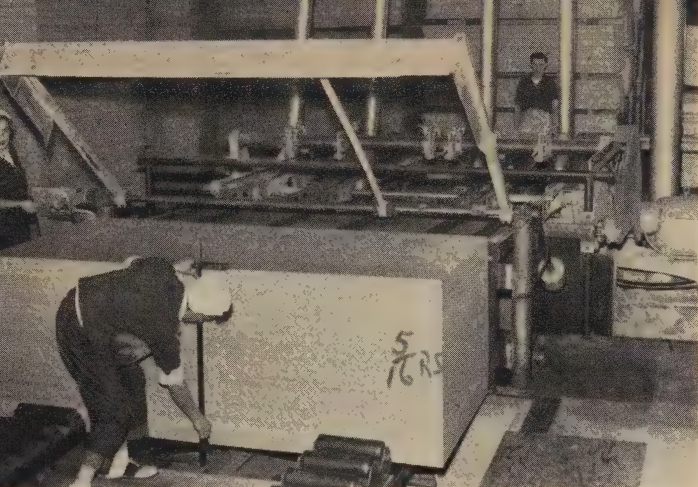
Importance of Foreign Trade to Canada.—Foreign trade is of much greater importance to the Canadian economy than to the economy of the United States or, indeed, to the economies of many other leading world traders. In 1953 the total value of the movable commodities produced in Canada was some \$12,000,000,000; of this, goods to the value of about \$4,000,000,000 were exported. A similar high ratio of commodity exports to commodity production has prevailed in other recent years, and is reflected in the value of Canada's trade per capita. In 1953 that value was greater than the per capita trade of any other leading trading country, and in no recent year has Canada's rank in trade per capita been lower than third.



Freighter bound for Southampton, England, takes on a cargo of flour at Montreal.

The importance of foreign trade to the Canadian economy is based on such diverse factors as natural resources, climate, the size of the population, the stock of capital available to assist in production, and the course of the country's economic development. Canada's natural resources are both large and varied relative to the size of the country's population, and much of Canada's economic history is a story of the exploitation of these resources in relation to existing demands in older countries—usually with capital originally supplied by older countries. On the other hand, the relatively severe Canadian climate has limited the frontiers of settlement in the country and has also limited the range of agricultural and forest products that can be domestically produced.

The industries most important in Canadian export trade are based on the resources of fisheries, forests, farmlands and minerals. Fish caught in Canadian waters and preserved were finding markets in Europe long before any permanent settlement of Europeans developed on the mainland, and the annual value of exports of fishery products has exceeded \$100,000,000 in recent years. The forests were first exploited through the fur trade, later through lumbering as well, and more recently through the growth of the pulp and paper industry. Agriculture became a major export industry during the 19th century, but assumed its present importance only in the early 20th



Exports of Canadian manufactured goods and plywood increased from \$25,836 in 1947 to \$21,555,108 in 1954. Although production is mainly from domestic woods, a number of imported woods and special decorative value give a wide choice of finish.

century after the opening of the Canadian West. In recent years the forest and agricultural industries have each provided about one-third of Canada's exports and the mining and metallurgical industry, which has developed chiefly during the present century, for almost one-fifth of the total.

The extent of manufacturing in Canada has been limited by the smallness of the country's population relative to available resources. It has usually been more profitable to use relatively scarce Canadian labour in industries exploiting natural resources extensively, rather than in labour-intensive complex manufacturing processes. Much of present-day manufacturing in Canada involves either the processing of natural products to facilitate their transportation, as in the flour-milling industry or the metal smelting and refining industry, or the use of non-exportable resources to produce exportable products, as in the primary aluminum industry or (in part) the pulp and paper industry, both of which depend on the availability of cheap hydro-electric power. Such manufacturing is best regarded as a facet of primary production in analysing the nature of Canada's trade.

The concentration in Canada on the efficient exploitation of natural resources has brought to Canadians one of the world's highest standards of living. It has also necessitated the import of a wide variety of goods. In part these are goods needed to supplement those which can be produced by Canadian resources, such as coffee, oranges or tin. But many products which could be produced in Canada as efficiently as elsewhere are not produced at all or are produced in insufficient volume to meet demand because Canadian labour and capital employed in such industries would be less productive than when employed in an extractive industry.

Leading Exports and Imports.—The following tables of leading exports and imports illustrate the results of Canada's concentration on primary industries. Of the twenty leading export commodities in 1954, four forest products accounted for 45 p.c. of the value, seven minerals for 25 p.c., and three agricultural products for 19 p.c. Of the remaining six commodities, fish are also a primary product and fertilizers are to an important degree a by-product of the extractive industries. Only farm implements, whisky,

machinery and guns are highly manufactured goods, and exports of the latter were extraordinarily high in 1954 as a result of defence requirements.

Among the twenty leading imports, manufactured goods play a much more important part. No less than eight, accounting for 56 p.c. of the value of the twenty, are fully fabricated manufactures, and five others, accounting for 16 p.c., are industrial materials at a relatively advanced state of fabrication. Five others, petroleum, coal, coffee, cotton and sugar, were required to supplement Canadian resources either because Canadian supplies could not be economically utilized to meet total Canadian demand or because Canada could not produce these goods. The other two imports are of a rather special character, one—tourist purchases—being related to the affinity of Canadians for travel and the other—non-commercial items—chiefly to the high level of immigration in the post-war years.



Fish, either fresh or frozen, is one of Canada's important export commodities, over 90 p.c. of the production being marketed outside of the country.



Principal Domestic Exports, 1950-54

NOTE.—Commodities ranked by value of exports in 1954.

Commodity	1950	1951	1952	1953	1954
	\$'000	\$'000	\$'000	\$'000	\$'000
Newsprint paper.....	485,746	536,372	591,790	619,033	635,670
Wheat.....	325,614	441,043	621,292	567,907	375,339
Planks and boards.....	290,847	312,198	295,949	282,736	324,724
Wood pulp.....	208,556	365,133	291,863	248,675	271,418
Aluminum, primary and semi-fabricated.....	103,206	120,853	155,106	173,378	182,392
Nickel, primary and semi-fabricated.....	105,300	136,689	150,982	162,542	182,154
Copper, primary and semi-fabricated.....	82,990	81,691	100,806	117,351	127,334
Barley.....	23,442	58,822	145,684	136,729	89,363
Wheat flour.....	93,839	113,854	116,055	102,160	88,029
Asbestos, unmanufactured.....	62,752	80,333	86,510	83,973	82,566
Farm implements and machinery (except tractors) and parts....	78,512	96,873	95,692	67,821	70,819
Whisky.....	41,682	54,039	54,254	63,086	59,156
Zinc, primary and semi-fabricated	58,710	83,669	96,283	57,572	58,392
Fish, fresh and frozen.....	49,711	53,363	52,852	51,219	56,650
Pulpwood.....	34,768	68,103	64,820	45,859	45,766
Fertilizers, chemical.....	38,874	35,734	42,293	42,633	42,342
Lead, primary and semi-fabricated.....	38,105	45,290	49,676	37,835	40,530
Iron ore.....	13,310	18,576	22,333	30,843	39,719
Guns, rifles and other firearms...	230	15	5,627	24,110	39,549
Machinery (non-farm) and parts.	25,644	40,271	47,378	37,282	36,676

Principal Imports, 1950-54

NOTE.—Commodities ranked by value of imports in 1954.

Commodity	1950	1951	1952	1953	1954
	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.	226,249	328,741	360,969	401,856	380,219
Petroleum, crude and partly refined.....	203,996	233,148	210,036	213,094	212,767
Electrical apparatus, <i>n.o.p.</i>	82,585	120,101	139,567	198,275	207,539
Automobile parts.....	158,405	195,177	190,337	222,284	180,433
Aircraft and parts (except engines).....	10,942	41,438	95,212	111,803	100,397
Rolling-mill products (steel)....	93,639	173,127	143,133	124,813	97,563
Engines, internal combustion, and parts.....	47,068	80,314	126,332	107,736	84,914
Tractors and parts.....	108,320	125,562	119,253	126,354	82,814
Fuel oils.....	45,909	58,389	64,908	65,151	70,921
Coal, bituminous.....	118,788	115,275	99,571	94,680	70,445
Tourist purchases.....	33,090	47,071	66,682	73,840	68,767
Coffee, green.....	41,664	48,438	50,775	57,595	64,214
Automobiles, passenger.....	75,329	56,632	49,484	79,454	60,846
Farm implements and machinery (except tractors) and parts....	53,322	69,529	78,044	82,795	60,351
Pipes, tubes and fittings (iron and steel).....	35,394	43,183	57,261	58,327	59,680
Non-commercial items.....	15,575	32,544	47,095	60,923	56,763
Cotton, raw.....	88,461	94,315	65,956	55,494	52,441
Sugar, unrefined.....	77,208	77,100	59,546	47,491	51,519
Principal chemicals (except acids), <i>n.o.p.</i>	37,161	43,940	49,824	54,505	46,193
Cotton fabrics.....	45,901	54,984	53,248	55,906	46,012



Where trade statistics are born. The International Trade Division of the Dominion Bureau of Statistics collects and analyses statistical information in the fields of international trade and international finance. To a country like Canada where external transactions are so important in the economic structure, such information is indispensable in the conducting of government and commercial business.

Leading Trading Partners.—Canada's trade with other countries—the United States and the United Kingdom particularly—is based on an exchange of Canada's natural resources, unworked or partially processed, for the labour and capital tied up in the highly finished manufactured goods which make up the bulk of imports.

The United States is by a wide margin the chief export market for Canadian goods and the chief source of imports for Canada. Exports to the United States consist chiefly of industrial materials in inadequate supply in that country, especially forest products and minerals, although fish and farm implements are also of great importance. The farm implements industry, which developed in relation to Canada's own requirements in the past century, proved able not only to hold a major part of the Canadian market but also to win a significant share of the United States market aided by the absence of tariffs on farm implements on both sides of the border. Imports from the United States consist chiefly of manufactured products such as industrial machinery and automobile parts, and natural products not available in Canada, such as cotton, citrus fruits and fresh vegetables out-of-season.

The United Kingdom ranks second both as an export market and as a source of imports. Principal exports to the United Kingdom include grains, metals and forest products, while imports are primarily manufactured goods such as machinery, electrical apparatus and textiles. Trade with most European countries and with Japan is similar in character. Manufactured goods are of greater importance in sales to Latin American countries and to many Commonwealth countries, and imports from these countries are,

generally speaking, largely natural products which cannot be efficiently produced under Canadian climatic and physiographic conditions. But the volume of trade with these areas is not sufficiently great to change appreciably the tone set by trade with the United States and the United Kingdom.

Domestic Exports to Leading Countries, 1950-54

NOTE.—Countries ranked by value of exports in 1954.

Country	1950	1951	1952	1953	1954
	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	2,020,988	2,297,675	2,306,955	2,418,915	2,317,153
United Kingdom.....	469,910	631,461	745,845	665,232	653,408
Japan.....	20,533	72,976	102,603	118,568	96,474
Germany, Federal Republic.....	8,873 ¹	37,028 ¹	94,863	83,858	86,899
Belgium and Luxembourg.....	66,351	94,457	104,376	69,510	54,987
Australia.....	35,446	49,079	49,697	39,629	45,768
Brazil.....	15,806	53,684	81,367	37,561	45,096
Norway.....	18,924	32,198	39,002	37,278	43,813
Union of South Africa.....	42,561	52,736	47,852	50,763	39,883
Netherlands.....	8,617	26,191	41,508	42,382	39,777
France.....	18,403	46,538	48,264	32,281	33,799
Venezuela.....	25,457	26,982	35,683	36,485	30,973
Mexico.....	17,624	29,880	39,641	28,986	27,359
Switzerland.....	26,435	25,345	26,918	29,833	26,826
Italy.....	15,476	48,763	52,645	33,170	23,844
Colombia.....	14,806	12,311	13,756	20,146	21,000
India.....	31,520	35,737	55,423	37,187	17,689
Cuba.....	18,005	20,424	24,181	16,124	17,455
Philippines.....	10,829	15,598	16,045	13,872	15,863
New Zealand.....	10,983	21,757	18,844	7,475	14,807

¹ Includes Eastern Germany in 1950 and 1951.

Imports from Leading Countries, 1950-54

NOTE.—Countries ranked by value of imports in 1954.

Country	1950	1951	1952	1953	1954
	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	2,130,476	2,812,927	2,976,962	3,221,214	2,961,380
United Kingdom.....	404,213	420,985	359,757	453,391	392,472
Venezuela.....	87,264	136,718	135,758	155,147	167,594
Germany.....	11,026 ¹	30,936 ¹	22,629	35,507	44,485
Brazil.....	28,178	40,627	35,103	35,047	31,623
India.....	37,262	40,217	26,822	26,627	28,054
Belgium and Luxembourg.....	22,795	39,095	33,216	29,082	25,077
Colombia.....	13,342	13,063	18,004	23,215	24,820
Australia.....	32,803	46,228	18,712	23,464	24,657
Netherlands.....	8,896	14,010	16,495	22,298	22,562
France.....	14,669	23,974	19,117	22,267	22,046
Netherlands Antilles.....	17,336	10,809	11,747	8,154	20,582
British Guiana.....	21,735	25,025	23,660	17,800	20,482
Malaya and Singapore.....	28,852	57,980	25,473	21,896	19,586
Japan.....	12,087	12,577	13,162	13,629	19,197
Switzerland.....	14,464	16,398	16,396	20,437	19,151
Lebanon.....	62 ²	16,381 ²	15,171	19,584	17,413
British East Africa.....	15,067	10,864	9,593	9,393	15,852
Jamaica.....	19,080	18,041	9,204	11,761	15,309
Italy.....	9,373	14,217	11,735	14,271	15,006

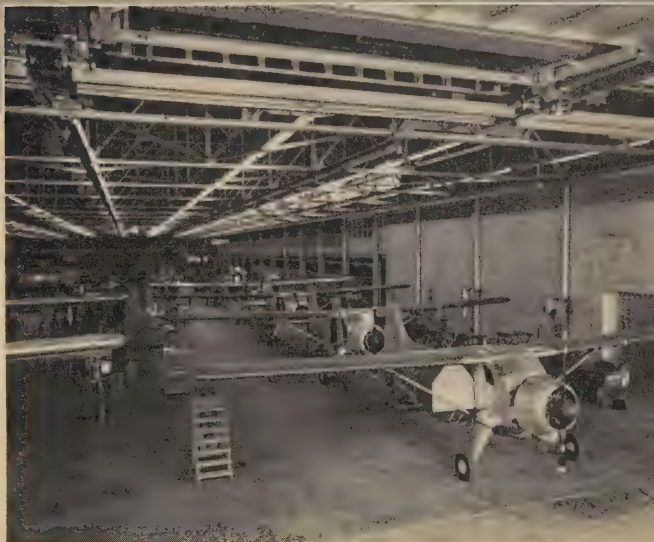
¹ Includes Eastern Germany in 1950 and 1951.

² Includes Syria in 1950 and 1951.



The Netherlands Government is buying these Beaver aircraft for use in New Guinea, bringing to 32 the number of countries in which the famous Canadian bush-plane is in operation.

Beaver final assembly in De Havilland's new Toronto plant.



Recent Trade Trends.—During 1953 and 1954 the value of Canadian exports was reduced below its previous record peak, and imports also fell off after the middle of 1953. The decline in export values resulted in part from a slow but steady decline in export prices over this period, in part from a decline in the quantity of Canadian goods shipped abroad. Import prices were quite stable in both years, and the drop in imports in 1954 resulted entirely from a decline in the quantity of foreign goods purchased by Canadians.

The greater part of the decline in export volume in 1953 and 1954 resulted from a lower level of world trade in grains after the 1953 harvest. Crops in most important producing and consuming countries were considerably better in 1952 and 1953 than in 1951, and during the first nine months of 1953

stocks of grains in many consuming countries rose to very high levels. The smaller total trade in grains after the harvest was also divided among a greater number of exporters—a poor harvest in 1951 and the need to rebuild stocks after the 1952 harvest had limited the participation of Argentina, Australia, France and Turkey in world grain exports before 1953.

Summary Trade Statistics, by Quarters, 1952-54

Period	Value of Trade (\$'000,000)			Price Indexes (1948 = 100)		Volume Indexes (1948 = 100)	
	Total Exports	Im- ports	Trade Balance	Domestic Exports	Im- ports	Domestic Exports	Im- ports
1952							
Jan.-Mar.	1,001.8	916.1	+85.7	124.8	117.3	103.0	118.1
Apr.-June.	1,119.9	1,034.2	+85.7	122.0	110.9	118.1	140.9
July-Sept.	1,069.2	995.2	+74.0	120.6	107.1	113.7	140.6
Oct.-Dec.	1,165.0	1,084.9	+80.1	119.9	107.9	124.8	151.7
1953							
Jan.-Mar.	913.9	998.0	-84.1	119.2	108.5	98.2	138.7
Apr.-June.	1,105.8	1,218.6	-112.8	119.0	109.4	119.5	168.4
July-Sept.	1,089.0	1,118.2	-29.2	118.5	110.3	117.9	152.5
Oct.-Dec.	1,063.9	1,048.1	+15.8	116.9	110.2	116.9	143.4
1954							
Jan.-Mar.	866.3	925.9	-59.6	115.2	109.2	95.5	128.3
Apr.-June.	1,005.0	1,124.2	-119.2	116.3	110.2	110.6	154.3
July-Sept.	993.1	1,001.2	- 8.1	115.0	...	110.4	...
Oct.-Dec.	1,082.5	1,041.9	+ 40.6	114.4	...	121.1	...

Other influences contributing to the lower level of exports in 1953 and in 1954 included the business readjustments in the United States, and special factors influencing exports of automotive products. The decline in economic activity in the United States affected especially farm implements, some base metals and minerals, and primary iron and steel. Exports of lumber, shingles and iron ore were also depressed in the early months of 1954 but increased sharply in the second half. Lower sales of many of these products to the United States were partly offset by greater sales in overseas markets which generally showed no economic declines in this period, although exports of automotive products to Europe and Latin America in particular fell off sharply.

The weak state of the market for textiles in Canada in the latter part of 1953 and in 1954 played an important part in the reduction of imports in this period. Canadian imports of fibres and textiles had expanded sharply in the last quarter of 1952 and were very heavy in the first half of 1953. But during this period inventories of these goods increased and demand weakened. In the latter part of 1953 textile imports fell off and remained at a low level in 1954.

Other declines in import volume appear to have been related to a reduction in requirements for some capital goods by agriculture and industry, to weakness in the demand for some consumer durables, and to attempts to reduce inventories of some types of goods. Farm cash income in Canada declined in 1953 and, as farmers were already well equipped with new machinery, their demand for machinery fell off in late 1953 and 1954. A lower rate of new automobile production in Canada caused some decline

in imports of automobile parts and engines, and falling sales of automobiles also caused a cut in imports of completed vehicles. Requirements for imported iron ore and for primary iron and steel decreased with the lower rate of steel production in Canada and a general easing in steel demand. Imports of refrigerators and freezers showed a sharp drop from their high 1953 level. A marked decrease in imports of coal appeared to reflect some reduction in inventories in dealers' hands in Canada, as well as the long-run trend towards the displacement of coal by oil.

Although import and export prices were, on the whole, relatively stable in 1953 and 1954, a few commodities were especially influenced by price change. The reduction in the volume of grain exports was accentuated by lower prices than prevailed during 1951 and 1952, and the increase in the value of exports of lumber to all countries was limited by lower prices. Average export prices of zinc and lead were also appreciably lower than those

Rubber or sugar, scrap iron or feathers — every commodity entering Canadian ports from the four corners of the earth is sampled for quality and weighed, a task made mandatory by customs regulations for the benefit of importers.



recorded during the Korean war boom. A few imports were subject to important price increases, especially the beverage commodities (coffee, cocoa and tea) and some other agricultural products.

The Canadian Balance of International Payments

Canada is in the forefront of countries attracting foreign investment capital and is also, in relative terms, a major investor abroad. The importance of foreign trade in the Canadian economy and of foreign capital in financing some parts of recent Canadian development are among the factors that give the balance of international payments particular significance for the Canadian nation.

After a series of surpluses extending from the early 1930's on account of transactions in goods and services with other countries, Canada in recent years has tended to incur substantial deficits. These deficits have been influenced by the growth in the volume of goods and services imported in response to high levels of investment and other economic activity in Canada, and by the economic condition of Canada's trading partners. Despite wide fluctuations in the balance of Canada's current account in the post-war period, the balances have been small in relation to the gross international exchanges of goods and services by Canada, which in the past few years have been at an annual rate in excess of \$11,000,000,000. In 1954, the aggregate value of these transactions showed a decrease for the first time since the end of World War II.

Most of Canada's international transactions take the form of commodity trade. But the trade balances, when adjusted for balance of payments purposes, have been relatively small in recent years although they have fluctuated widely. The deficits on current account have been mainly the result of transactions termed "invisibles". The income account is consistently the largest contributor to this deficit and, although net payments of interest and dividends have fallen from the high levels of a few years ago, they continue to amount to about \$250,000,000 a year, representing the net exchange cost of Canada's net debtor position of more than \$6,000,000,000. In recent years, Canada has experienced deficits on account of international travel (*see* p. 242) and on account of freight and shipping services; these together have recently amounted to about \$100,000,000. "All other" current transactions also lead to a considerable deficit; this account reflects mainly the myriad business services provided to and by non-residents, as well as government transactions in which defence expenditures have at times loomed large. Against these substantial net debits on account of invisibles, there has been net gold production available for export amounting to about \$150,000,000.

Canada's current account deficits have been the real counterpart of very substantial inflows of foreign capital for direct investment in Canadian enterprises and for additions to foreign holdings of Canadian securities. These inflows, together with repayments on loans extended to other governments in the early post-war years, have been more than sufficient to finance the current account deficits. Despite a considerable increase in Canada's official holdings of gold and foreign exchange, and other outflows of capital, the Canadian dollar has remained at unprecedented levels on the world's exchange markets.

loading zinc for export.
Primary and semi-fabricated aluminum, nickel, copper, zinc and lead all rank within the twenty top exports of Canada.



Though on balance only a relatively small part of Canada's great post-war economic development has been financed from abroad, foreign capital has played a most important role in some of the more dramatic developments, and there has been a considerable growth in the nation's net balance of international indebtedness. This is now well over \$6,000,000,000 and is approaching the levels of 1930, although, of course, the change in price levels and the great increase in the productive capacity of the country make it relatively much less important than at that time. Gross liabilities to non-residents now amount to nearly \$13,000,000,000 but external assets are equal to somewhat more than half of this amount. The largest and most rapidly growing element in Canada's liabilities is the foreign direct investment in industrial enterprises, mainly from the United States, but non-resident holdings of the bonds of Canadian governments and municipalities, and of securities of Canadian-controlled companies, are also of great importance.

Foreign investors now own about one-tenth of the funded debt of Canadian governments and municipalities and about one-third of the broad field of Canadian industry and commerce. Their investment represents only a negligible part of other forms of Canadian wealth such as farm, residential and personal property. The proportions have been declining. Before World War II about one-quarter of government debt was in foreign hands; so was the ownership of about 38 p.c. of Canadian industry. Because of the concentration of post-war investment by foreigners in manufacturing and mining enterprises, their share of these particular fields has increased. Nearly 60 p.c. of the capital of mining, smelting, and petroleum exploration and development companies was owned by non-residents at the end of 1951, compared with 40 p.c. in 1939. The share of foreign capital varies widely in different fields of manufacturing. The percentage is comparatively large in some branches such as non-ferrous metals, the automobile industry, and petroleum refining; it is comparatively low in other fields such as textiles and primary iron and steel. In some industries such as newsprint and wood products, non-resident capital plays a very important part but the major share of ownership is Canadian.

Although external assets are sufficiently large to cover more than half Canada's international liabilities, they are in some respects different in character. More than half are assets of the Canadian Government in the form of war and post-war loans to overseas countries and of official gold and foreign exchange holdings. Private assets abroad include long-term direct and portfolio investments of more than \$2,000,000,000; since the War these holdings have shown a rate of growth somewhat higher than that of foreign private long-term investment in Canada.

Travel between Canada and Other Countries

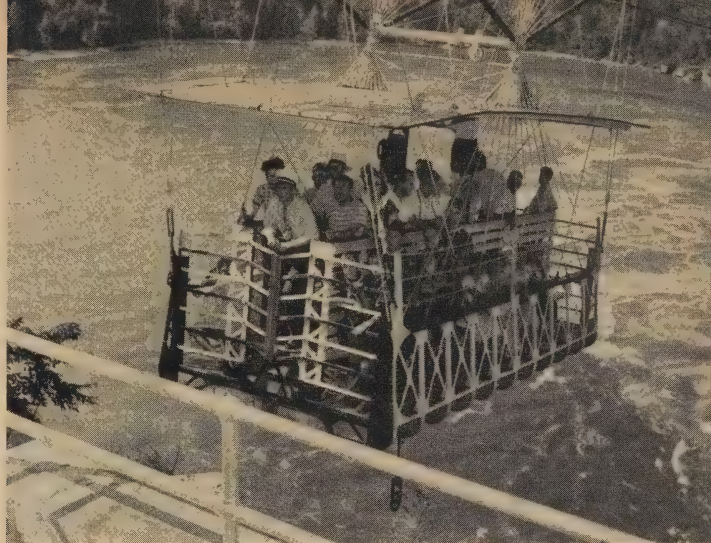
Travel between Canada and the United States is probably much greater than between any other two countries. High standards of living and complementary attractions on both sides of the border have stimulated the movement of people from one country to the other and have given rise to large travel expenditures in both countries. In 1953 more than 51,300,000 persons crossed the International Boundary from the United States to Canada, 28,000,000 of them being United States travellers entering Canada and 23,300,000 of them Canadian residents returning from visits to the United States. This record represents an all-time high in both directions. Travellers arriving in Canada from overseas (both direct and through the United States) numbered 38,200 and Canadians returning from overseas countries numbered 77,700.

In analysing travel from the United States to Canada, most important in both numbers and expenditures is the group of persons travelling by automobile. The total number of non-resident automobiles entering Canada in 1953 was 8,235,000, carrying 19,494,000 people who spent the sum of \$156,900,000 during their stay. Persons entering by other means of transportation numbered 8,632,000 and their expenditures were \$125,300,000. The difference in the average expenditures of these two groups is largely



The name "Calgary" almost synonymous "Stampede". Every during Stampede V Calgary becomes a colorful "cowtown" and vi—about 400,000—to the foothills city to great show.

the famous Spanish
 hero car has taken
 thousands of Cana-
 dians and visitors on
 breath-taking rides
 above the great
 Whirlpool on the Nia-
 gara River.

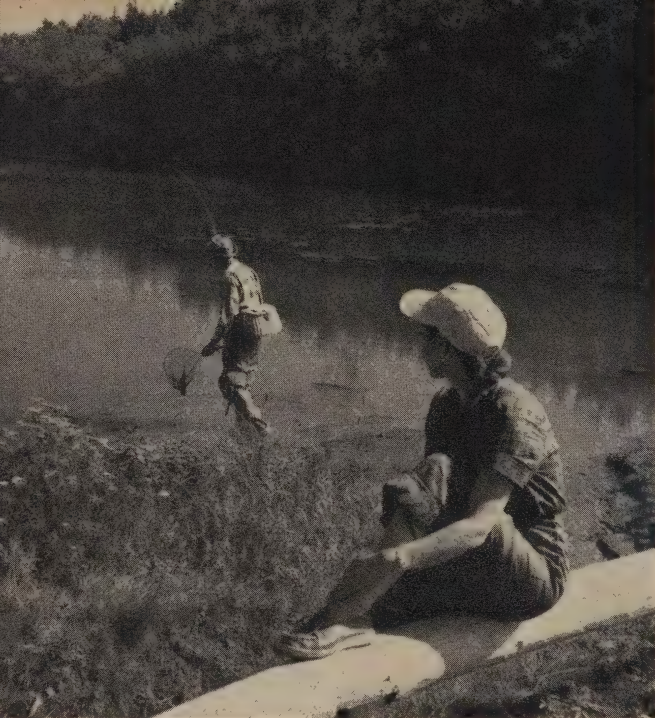


accounted for by the fact that those entering by automobile have a tendency to remain a shorter length of time and thus spend less money. This trend has been particularly noticeable in recent years.

Of the 23,311,842 Canadians visiting the United States in 1953, 13,584,352 travelled by automobile and 20,551,757 were short-term visitors staying only two days or under. Total expenditures of all Canadian travellers in the United States in 1953 amounted to \$307,290,955. Following the trend of recent years, this expenditure exceeded the expenditure of United States travellers in Canada. In 1953, the average expenditure per person for visits lasting longer than 48 hours was \$86 for Canadians visiting the United States and \$52 for Americans visiting Canada. For visits of 48 hours or under, the average expenditure was \$3.42 and \$2.52, respectively. Merchandise bought in the United States by Canadian travellers represents almost a quarter of the total expenditure on travel account in that country.

the "Lake of Shining
 Waters", known as a
 place of enchantment
 to many little girls
 through the stories of
 Anne of Green
 Gables", is a reality
 at Cavendish, P.E.I.,
 and remains today as
 the author knew and
 loved it.





Whether on a week
jaunt to a nearby lake
stream or a leisurely
day in the wilderness,
countless numbers of
enthusiasts enjoy Canada's
excellent fishing waters.

Travel between Canada and overseas countries normally produces a debit balance because Canadians travel overseas in greater numbers and spend more money than overseas travellers in Canada. The difference in expenditure in 1953 was \$38,000,000.

The numbers of travellers moving between Canada and other countries in the years 1950-53 were, in millions of dollars:—

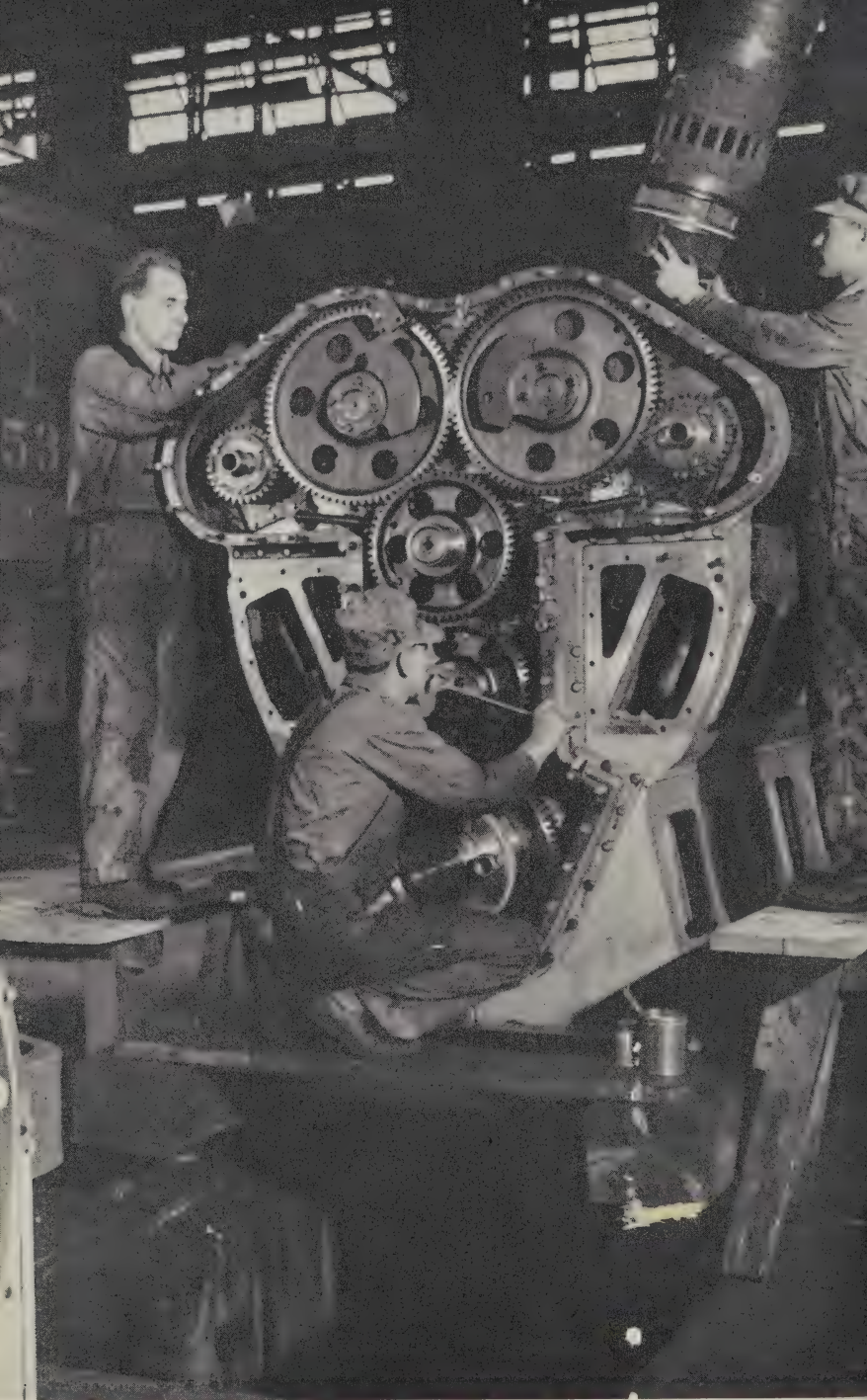
<u>Item</u>	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
Canadians visiting the United States...	16,000,801	18,586,927	21,512,024	23,311,842
Americans visiting Canada.....	23,516,711	24,879,527	26,276,834	28,024,746
Canadians visiting overseas countries (direct).....	43,801	44,165	54,812	61,482
Overseas visitors to Canada (direct)....	16,147	18,160	22,078	21,575
TOTALS.....	39,577,460	43,528,779	47,865,748	51,419,645

The balance of payments on travel account between Canada and other countries for 1950-53 were, in millions of dollars:—

<u>Item</u>	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
Account with United States—				
Credits.....	260	258	257	282
Debits.....	193	246	294	307
Net.....	+ 67	+ 12	- 37	- 25
Account with Overseas Countries—				
Credits.....	15	16	18	20
Debits.....	33	34	47	58
Net.....	- 18	- 18	- 29	- 38
Account with All Countries—				
Credits.....	275	274	275	302
Debits.....	226	280	341	365
Net.....	+ 49	- 6	- 66	- 63



Blessed are we
who may stand in the bright glow
of sunlight through Autumn's leaves
and behold her wearing her crown of glory.



A work force of nearly 1,100 at the CPR maintenance shops at Calgary, Alta., keeps diesel locomotives rolling over the mountain railroads of Western Canada. This is one of three large CPR repair shops—its average monthly payroll amounts to about \$291,000.

Labour

CANADA'S industries today employ about five and one-half million persons. Ranging from unskilled labourers to highly trained technicians and executives and from labour on the farm to workers in large manufacturing plants, these men and women daily play their role in providing the nation's goods and services. Over the post-war years, wages and working conditions have steadily improved and have helped the rise in the standard of living which stems from improvements in productive capacity and the general concern that its benefits shall be spread as widely as possible over the entire community.

Labour legislation at both federal and provincial levels is designed to set minimum standards for hours, wages and many other conditions of employment. Most workers, however, enjoy higher than minimum standards. About 1,250,000 belong to labour unions, their right to do so being protected by law. Through their unions, these workers have negotiated over 6,100 collective bargaining agreements which, in general, cover joint labour-management decisions on conditions of employment. These agreements are usually renegotiated each year, sometimes with the assistance of government conciliation services, and mostly without work stoppages. Only about one-seventh of one per cent of the estimated total working time in all Canadian industry was lost by strike action in 1953.

The Labour Force

The labour force of Canada, as measured by sample surveys conducted by the Dominion Bureau of Statistics, includes those people who have jobs plus those who do not have jobs and who are looking for work. "Job" in this sense means work for pay or profit, or unpaid work which contributed to the running of a farm or business operated by a relative. Thus a coal-miner or a shopkeeper is considered to be in the labour force but a housewife or a student is not. The labour force is not a fixed group of people. It is constantly changing, as new workers enter and old ones leave.

Industrial Distribution of Persons with Jobs, by Sex, Week ended Dec. 11, 1954

(Thousands of persons 14 years of age or over)

Industry	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Agriculture.....	770	33	803	97	1	105
Forestry.....	145	1	146	114	1	115
Fishing and trapping.....	18	1	18	1	1	1
Mining and quarrying.....	94	1	95	91	1	92
Manufacturing.....	1,019	264	1,283	953	257	1,210
Construction.....	328	1	335	271	1	277
Transportation ³	338	52	390	306	52	358
Public utilities.....	59	1	63	59	1	63
Trade.....	569	257	826	430	218	648
Finance, insurance ⁴	89	75	164	78	73	151
Service.....	548	516	1,064	464	481	945
Totals.....	3,977	1,210	5,187	2,868	1,101	3,969

¹ Less than 10,000.

² Includes oil wells.

³ Includes storage.

⁴ Includes real estate.

About three out of four people in the labour force are male and almost one-half of those in the labour force are from 25 to 44 years of age; the average female worker is considerably younger than the average male worker. Occupationally, one worker out of six is in agriculture; geographically, almost two out of three live in Ontario or Quebec. The percentage of the labour force to the total population 14 years of age or over is lower in Newfoundland, the Maritime Provinces and British Columbia than in the rest of the country. In non-agricultural industries, which employ 4,384,000 people of whom one-quarter are women, about 86 p.c. of the men and 93 p.c. of the women are paid employees. In agriculture, on the other hand, paid employees form a relatively small element—hardly more than one worker in seven, even during harvest season.

Occupational Distribution of Persons with Jobs, by Sex, Week ended Dec. 11, 1954

(Thousands of persons 14 years of age or over)

Occupation	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Managerial.....	388	40	428	168	15	183
Professional.....	244	171	415	209	167	376
Clerical.....	239	355	594	239	350	589
Transportation.....	343	¹	347	315	¹	319
Communication.....	45	33	78	45	33	78
Commercial.....	217	156	373	213	135	348
Financial.....	43	¹	45	32	¹	33
Service.....	210	243	453	192	220	412
Agricultural.....	775	33	808	103	¹	111
Fishing, logging and trapping.....	139	¹	139	100	¹	100
Mining.....	64	¹	64	62	¹	62
Manufacturing and mechanical ²	733	157	890	697	153	850
Construction.....	276	¹	278	235	¹	237
Labourers.....	261	14	275	258	13	271
Totals.....	3,977	1,210	5,187	2,868	1,101	3,969

¹ Less than 10,000.
with electric-power production.

² Includes stationary enginemmen and occupations associated

Women in Industry.—Employment opportunities for women have expanded with the growth of the Canadian economy. Notable developments during the past 10 or 12 years include: the increase in the employment of married women; the concentration of the growth in those occupations in which women have been traditionally employed; the reduction in the proportion of teenage girls in the labour force; and the greater expansion proportionately of women's employment in Ontario, British Columbia and Alberta.

Employment of married women has increased in almost all areas, occupations and industries; proportionately, the greatest rise in the major occupational groups occurred in agriculture, proprietary and managerial, commercial and manufacturing. Of all women with jobs in Canada at Dec. 11, 1954, 639,000 were single, 447,000 married, and 124,000 were widowed, divorced or legally separated.

In recent years there have been large increases, proportionally, in the older age groups of working women in Canada. The largest growth proportionately has taken place in the age group 45 to 64 although the greatest



"Want ad" Service in a large newspaper office. Equipment is designed to provide comfort and reduce fatigue, an important requirement for employees dealing directly with the public.

number are still to be found in the age group 25 to 44. The age distribution of women with jobs in Canada at Dec. 11, 1954, was: 14-19 years, 203,000; 20-24 years, 242,000; 25-44 years, 509,000; 45-64 years, 233,000; 65 years or over, 23,000.

Women in the Canadian Labour Force, Dec. 11, 1954

Region	Women in Population 14 Years or Over ¹	Women in Labour Force	P.C. of Women in Labour Force	P.C. of Women to Total Labour Force in Region
	No.	No.		
Atlantic.....	558,000	109,000	19.5	21.4
Quebec.....	1,489,000	360,000	24.2	23.0
Ontario.....	1,818,000	493,000	27.1	24.9
Prairie.....	909,000	174,000	19.1	18.6
British Columbia.....	449,000	104,000	23.2	23.5
Totals.....	5,223,000	1,240,000	23.7	22.8

¹ Excludes women inmates in institutions, women in remote areas or Indian women on reserves.

Employment in 1954

Employment in the nine major non-agricultural industries covered by monthly surveys reached an all-time high in October 1953. Since then the volume has been at a slightly lower level. The index for the first nine months

of 1954 was 3.2 p.c. below that for the same months of 1953 and also somewhat below the index for 1952 but, aside from these two years, it was the highest on record.

Lower levels of employment were reported in the 1954 period for all provinces except Saskatchewan, where construction activity was largely responsible for a small increase over 1953 and the attainment of an all-time maximum in that Province. In the other provinces, slackness in manufacturing and the completion of large defence and industrial projects were important factors in the moderately lower level of employment. On the whole, declines were not so great in Western Canada as in the central and eastern provinces.

Forestry (chiefly logging) showed a further falling-off in employment in the 1954 period, the greatest declines occurring in Newfoundland, Quebec and Ontario. The losses, however, took place in the earlier months of the year and by autumn the indexes in most provinces were higher than in the same period of 1953. Continued curtailment of operations in the coal fields and lessened activity in the Quebec and Ontario gold-mining areas, partly caused by industrial disputes which began in the late summer of 1953 and remained unsettled until early 1954, brought the index for the mining group to slightly below the 1951 level.

As already mentioned, completion of certain large projects affected the general index for the construction group during 1954 in most provinces. Expansion in the communications sector of the transportation, storage and communication group was offset by lower employment in steam-railway operations and the group index was 1.8 p.c. below its 1953 position. In the non-durable sector of manufacturing, employment was higher in paper products and food and beverages but serious losses were experienced in clothing and textiles. Declines were relatively greater in durable manufactured goods—unfavourable market conditions and industrial disputes adversely affected employment in the primary iron and steel, transportation equipment and some other industries.

Other major industrial groups—public utility operation, trade, finance, insurance and real estate and services—reported increased employment, continuing the post-war upward trend. Relatively large numbers and proportions of women are employed in most of these groups and in the light manufacturing industries which suffered on the whole a relatively smaller loss than durable goods manufacturers; the number of women employed showed a decrease of 1.5 p.c. compared with 3.7 p.c. for men.

The fractional reduction in weekly payrolls during the nine-month period of 1954 from those for the same period in 1953 was the first reversal of the continuously upward trend experienced since the War. The major declines occurred in forestry and construction, and increases were reported for the other non-manufacturing groups with the exception of mining. Geographically, considerable improvement took place in Saskatchewan, with lesser increases in Ontario, Manitoba and Alberta. While decreases occurred in the other provinces, the level of their industrial payrolls in the first nine months of 1954 was above that of 1952 except in New Brunswick. Average weekly wages and salaries generally in Canada advanced by 2.9 p.c. to a new high of \$58.66 in the nine-month period of 1954, a smaller gain than was indicated in 1953 over 1952. Fairly widely scattered wage-rate increases were offset by reductions in overtime and more extensive short-time work in some industries.



Welding crew working on a natural-gas pipeline running from the International Border at Queenston, Ont., to Toronto. The line, built during the summer of 1954, will carry United States gas to Toronto.

Average hours worked per week in manufacturing in 1954 were 40·6, slightly shorter than in the same period of 1953. The steady post-war climb in average hourly earnings generally continued at a more moderate pace than in earlier years. The annual figure for manufacturing was 140·8 cents, a rise of 4·2 p.c. over 1953.

Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Province, 1953 and 1954

(1949=100)

NOTE.—Figures are for the first nine months of 1953 and 1954.

Province	Index Numbers of—						Average Weekly Wages and Salaries		
	Employment			Payrolls					
	1953	1954	P.C. Change	1953	1954	P.C. Change	1953	1954	P.C. Change
							\$	\$	
Newfoundland.....	138·1	124·2	—10·1	203·9	180·1	—11·7	55·13	54·45	— 1·2
Prince Edward Island..	114·6	106·9	— 6·7	151·9	141·0	— 7·2	44·74	44·49	— 0·6
Nova Scotia.....	100·5	96·7	— 3·8	130·8	128·2	— 2·0	48·42	49·61	+ 2·5
New Brunswick.....	101·1	96·7	— 4·4	130·6	128·3	— 1·8	49·00	50·19	+ 2·4
Quebec.....	111·8	107·7	— 3·7	148·0	147·3	— 0·5	54·30	56·18	+ 3·5
Ontario.....	114·2	110·8	— 3·0	152·1	152·4	+ 0·2	59·07	60·90	+ 3·1
Manitoba.....	106·5	103·6	— 2·7	136·4	136·8	+ 0·3	54·70	56·16	+ 2·7
Saskatchewan.....	113·5	116·2	+ 2·3	148·3	156·4	+ 5·5	54·23	55·74	+ 2·8
Alberta.....	127·2	125·4	— 1·4	166·0	168·4	+ 1·4	58·38	59·61	+ 2·1
British Columbia.....	107·7	105·0	— 2·5	148·1	147·7	— 0·3	62·89	64·18	+ 2·1
Composite....	112·6	109·0	— 3·2	149·7	149·5	— 0·1	57·2	58·66	+ 2·9

Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Industrial Groups, 1953 and 1954

(1949=100)

NOTE.—Figures are for the first nine months of 1953 and 1954.

Industrial Group	Index Numbers of—						Average Weekly Wages and Salaries		
	Employment			Payrolls					
	1953	1954	P.C. Change	1953	1954	P.C. Change	1953	1954	P.C. Change
							\$	\$	
Forestry (chiefly logging).....	93.2	85.1	— 8.7	136.8	127.5	— 6.8	58.91	59.84	+ 1.6
Mining.....	113.3	108.8	— 4.0	150.0	148.1	— 1.3	68.00	69.91	+ 2.8
Manufacturing.....	113.3	108.1	— 4.6	151.6	149.8	— 1.2	58.70	60.66	+ 3.3
Durable goods.....	124.2	116.6	— 6.1	167.3	161.2	— 3.6	63.26	64.92	+ 2.6
Non-durable goods..	103.7	100.7	— 2.9	136.6	138.6	+ 1.5	53.95	56.40	+ 4.5
Construction.....	114.7	106.3	— 7.3	166.1	156.2	— 6.0	59.62	60.91	+ 2.2
Transportation, storage and communication.	110.3	108.3	— 1.8	139.9	140.6	+ 0.5	61.05	62.29	+ 2.0
Public utility operation	111.4	114.6	+ 2.9	151.0	162.6	+ 7.7	65.05	67.70	+ 4.1
Trade.....	112.0	113.4	+ 1.3	145.5	155.0	+ 6.5	48.30	50.59	+ 4.7
Finance, insurance and real estate.....	121.7	126.3	+ 3.8	147.5	160.6	+ 8.9	51.44	53.67	+ 4.3
Service.....	108.3	110.9	+ 2.4	136.6	147.3	+ 7.8	36.61	38.49	+ 5.1
Composite.....	112.6	109.0	— 3.2	149.7	149.5	— 0.1	57.20	58.66	+ 2.9

Average Hours and Earnings in Manufacturing, by Month, 1953 and 1954

Month	Average Hours Worked		Average Hourly Earnings		Average Weekly Wages	
	1953	1954	1953	1954	1953	1954
	No.	No.	cts.	cts.	\$	\$
January 1.....	38.3	38.5	134.0	140.4	51.32	54.05
February 1.....	41.9	40.7	134.2	140.4	56.23	57.14
March 1.....	42.1	41.1	134.4	140.6	56.58	57.79
April 1.....	42.1	40.9	134.9	141.0	56.79	57.67
May 1.....	41.8	40.6	135.5	141.8	56.64	57.57
June 1.....	41.7	39.8	135.9	142.2	56.67	56.60
July 1.....	41.3	40.5	136.2	141.6	56.25	57.35
August 1.....	41.0	40.7	136.0	140.9	55.76	57.35
September 1.....	41.0	40.9	135.7	139.5	55.64	57.06
October 1.....	41.5	41.3	136.6	139.7	56.69	57.70
November 1.....	41.4	41.3	137.4	140.5	56.88	58.03
December 1.....	41.2	41.2	138.4	141.2	57.02	58.17
Annual Average.....	41.3	40.6	135.8	140.8	56.09	57.16

Monthly Indexes of Employment in Manufacturing, 1949-54

(1949=100)

Month	1949	1950	1951	1952	1953	1954
January 1.....	98.9	97.2	103.7	104.4	111.4	108.0
February 1.....	98.8	96.9	104.9	105.3	111.9	108.3
March 1.....	99.0	97.5	105.9	106.5	112.7	108.3
April 1.....	99.0	97.8	107.3	107.0	112.9	107.9
May 1.....	99.1	98.1	108.0	107.3	113.1	107.3
June 1.....	99.9	99.7	109.2	108.5	113.4	107.7
July 1.....	101.0	101.5	110.2	108.8	114.7	108.8
August 1.....	100.5	102.1	110.3	110.3	114.4	108.0
September 1.....	101.8	103.8	110.3	112.8	115.6	108.3
October 1.....	101.6	105.5	110.4	114.2	115.2	108.1
November 1.....	100.6	105.4	108.5	113.6	113.1	106.3
December 1.....	99.6	105.3	107.5	113.5	110.9	105.4
Annual Average.....	100.0	100.9	108.0	109.3	113.3	107.7

Steelmen riveting
girders on a
seven-span 1018-
foot bridge over
the Skeena River,
B.C.



Wage Rates, Hours of Labour and Working Conditions

Index numbers of wage rates by industry are compiled by the Department of Labour but these indexes measure the trend in rates of wages only and cannot be used to compare wage levels in one industry with those in another. The basic statistics are average straight-time wage rates or average straight-time piece-work earnings and do not, therefore, include overtime or other premium payments. The information is collected by means of a survey of employers conducted as at October 1 each year, with a sample survey in April and October to determine the intervening trend.

The index numbers reveal a general increase in wage rates from 1949 to 1953 of 33.6 p.c.; from October 1952 to October 1953 the increase was 4.6 p.c. with an estimated additional rise of 1.2 p.c. between October 1953 and April 1954. Based on a selected sample of collective agreements, negotiated wage rates continued to advance during 1954 though not to the same extent as in 1953.

The trend toward the 40-hour week, usually a five-day schedule, continued in increased degree between April 1953 and April 1954. In the latter month more than half the 800,000 plant employees in the manufacturing establishments surveyed were on a 40-hour week and 80 p.c. of them were on a five-day week. Of the 196,000 office employees covered in manufacturing, 56 p.c. were on a week of $37\frac{1}{2}$ hours or less in April 1954 and about 90 p.c. were in establishments operating on a five-day basis.

In regard to vacations, two notable features were revealed in the 1954 survey of working conditions. One was a tendency toward shorter service requirements for one-week and two-week vacations. Another was an increase in the practice of granting vacations of three weeks or longer. In six of the ten provinces, a one-week annual vacation with pay is mandatory but the vacation policies of most employers were more liberal than required

under provincial legislation. More than nine-tenths of the plant employees and almost all office employees were in plants where they could become eligible for a two-week paid vacation. More than half the plant workers were in employment where a three-week vacation was provided if service requirements were met, and almost two-thirds of the office workers were employed in establishments granting three weeks. A two-week vacation for plant employees is earned, as a rule, within the first five years of employment, and over half the employees were in plants where the service requirement ranged between one and three years; another 35 p.c. could become eligible for a two-week vacation after five years of service. Fifteen years was the most common service requirement for a three-week vacation among plant workers. Office employees of most manufacturing establishments employing 87 p.c. of the total, earned a two-week vacation after one year or less. For a three-week vacation, their stipulated service was, as with plant employees, predominantly 15 years. About 5 p.c. of the plant workers and a slightly higher proportion of the office workers were in establishments reporting four-week vacations, usually after 25 years of service.

For both plant and office employees eight paid statutory holidays a year was predominant. This number of paid holidays was reported in establishments employing 43 p.c. of the plant workers and for those employing 61 p.c. of the office workers. More than two-thirds of the plant workers and over 80 p.c. of the office employees were paid for six, seven or eight statutory holidays.

Establishments employing about 60 p.c. of the workers reported pension plans for non-office employees. The proportion of office employees was 72 p.c. For group life-insurance plans the proportions of plant and office workers were 83 and 87 p.c., respectively. Some type of sickness and accident benefit plan or a plan providing cash compensation for wage loss because of illness was reported in effect for plant employees in establishments covering 94 p.c. of the total of plant employees; for office employees the proportion was 96 p.c.

Index Numbers of Wage Rates for Certain Main Groups of Industries, 1901-53

(Rates in 1949=100)

Year	Logging	Coal Mining	Metal Mining	Manufacturing	Construction	Steam Railways	Telephones	Personal Service	General Average ¹
1901.....	23.8	24.2	33.8	..	19.2	19.8	..	..	18.6
1905.....	26.4	25.2	32.5	..	23.2	21.4	..	..	21.1
1910.....	29.6	27.5	34.6	..	27.6	25.9	..	..	24.4
1915.....	28.3	29.9	36.6	23.0	32.2	29.3	..	24.4	26.0
1920.....	65.9	57.8	56.9	47.0	57.5	63.6	60.9	45.2	52.3
1925.....	44.0	49.0	51.6	42.4	54.2	53.6	58.8	50.8	45.8
1930.....	45.1	49.5	51.9	43.8	64.7	58.8	62.5	52.3	48.8
1935.....	33.8	48.4	51.2	39.9	50.8	52.9	61.4	49.5	43.2
1940.....	48.5	52.1	56.9	47.9	56.7	58.8	66.9	54.1	50.8
1945.....	70.9	74.6	70.9	67.2	71.2	73.7	82.9	69.4	69.3
1950.....	97.0	102.8	106.8	106.1	104.8	105.1	104.8	102.9	105.5
1951.....	109.6	111.1	121.6	120.3	118.6	121.9	115.7	110.6	119.1
1952.....	133.3	124.0	130.1	128.4	128.6	136.8	128.4	117.6	127.7
1953.....	135.5	124.0	132.3	134.6	136.2	137.2	136.6	123.3	133.6

¹ Includes other main industries not shown in this table.

Labour Legislation

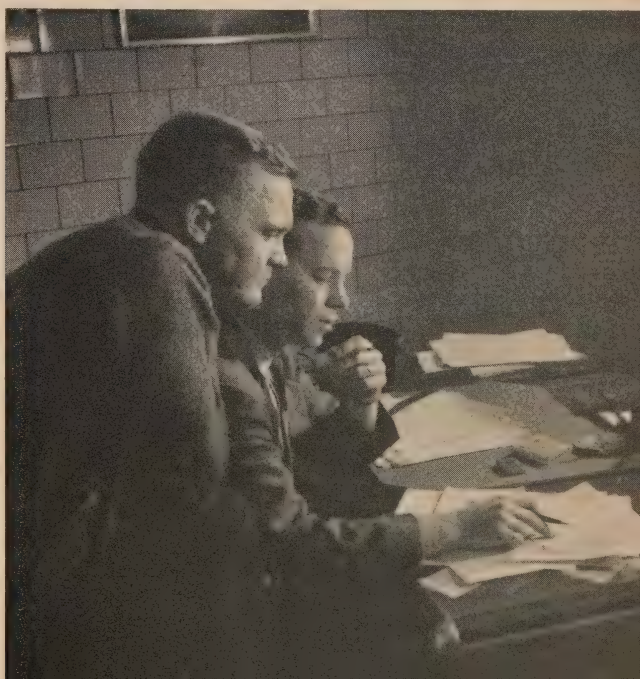
Provincial Legislation.—Provincial labour laws may be grouped under the following headings: safety laws; laws providing compensation for employment injury; laws regulating hours, providing for paid vacations and establishing a minimum wage; laws governing collective bargaining and industrial disputes; laws providing for apprenticeship training; laws requiring examination and certification of certain tradesmen; and laws forbidding discrimination in employment.

In all provinces in which mining is carried on, laws designed to create the safest possible working conditions in mines are in effect. Factories Acts seek to provide control over the working environment in a large part of industry. The construction, installation and operation of boilers and pressure vessels and of freight and passenger elevators, and electrical wiring and installation are regulated by special statutes. The safety standards established by all these laws are enforced by government inspectors.

Under a workmen's compensation law in each province a worker who is disabled by an industrial accident or a disease caused by the nature of his employment is entitled to compensation. This is based on the extent of his disability and the amount of his earnings, subject, in respect of earnings, to a specified percentage rate (which may be 66⅔, 70 or 75, depending on the province) on an annual ceiling of \$4,000 or less. In fatal cases, widows, children or other dependants are awarded fixed monthly sums. Compensation and medical aid are payable from an accident fund to which employers are required to contribute and which provides a system of mutual insurance.

Five provinces have general hours-of-work laws. These either limit daily and weekly hours to eight and 48 or fewer, as in Alberta, British

There is growing recognition in Canada that the attainment of such goals as high employment and better standards of living entails responsibilities for management, labour and government—sound policy and imaginative and creative activity on the part of each group.



Columbia and Ontario, or require the payment of overtime rates after specified limits, as in Manitoba and Saskatchewan. In seven provinces working hours in some industries are regulated through industrial standards or similar laws under which the wages and hours reached by agreement in a representative section of the industry may be made law by Order in Council establishing minimum standards to which all employers and workers in the industry and area must conform.

Annual vacations with pay of one or two weeks are provided by law in six provinces. A Board with minimum-wage-fixing powers has been set up in every province but Prince Edward Island and most industrial workers are protected by a minimum wage set by law, of particular importance where prevailing rates are low and where workers are unorganized. In Nova Scotia and Ontario, however, these provisions affect women only; in New Brunswick, only one industry in which men are employed is covered; and in Newfoundland, a minimum wage has so far been applied to men only.

To promote collective bargaining and the settlement of disputes in undertakings within provincial jurisdiction, all provinces have labour relations Acts. Under these Acts an employer is required to bargain with a trade union which has been certified as bargaining agent for his employees for the conclusion of a collective agreement to establish conditions of employment binding on both parties for the duration of the agreement. Every agreement must contain a grievance procedure which may be invoked if any disagreement arises out of the terms of the agreement. A strike or lockout is forbidden while an agreement is in effect. If efforts to obtain an agreement are unsuccessful, government conciliation services are available and a strike or lockout is prohibited until the procedure for settlement set out in the Act has been carried out.

Apprenticeship laws in all provinces provide for the training of young people in designated skilled trades through a combination of on-the-job training and class instruction. This is usually for a period of four years, during which time an apprentice receives a percentage of the journeyman's prevailing rate of pay, with progressive increases for each stage of training. Most provinces have agreements with the Federal Government for financial assistance in promoting apprenticeship.

In a few provinces legislation is in effect requiring tradesmen in certain designated trades to hold certificates of competency, without which they may not engage in the trade. Standards of proficiency are laid down to be attained upon examination by a person seeking a certificate.

Equal-pay laws in British Columbia, Ontario and Saskatchewan require women to be paid at the same rate as men when they do the same or comparable work in the same establishment, and fair employment practices laws in Manitoba and Ontario prohibit discrimination in hiring and employment on grounds of race, creed, colour or national origin.

Federal Legislation.—Under a federal law, a system of unemployment insurance covers most workers in Canada and a nation-wide free employment service is available to all workers and employers (*see p. 257*). The Vocational Training Co-ordination Act authorizes the Minister of Labour to co-operate with the provinces in carrying out various types of vocational training (*see p. 258*). The Canada Shipping Act sets standards for the welfare and

Electronic calculators take care of the accounting and recording requirements of large industrial establishments—man-hours are saved and efficiency improved in all phases of industry by the introduction of specially designed equipment and the use of the latest developments in applied science.



safety of seamen. Two federal laws provide compensation for workers injured in their employment—the Merchant Seamen Compensation Act applying to seamen not covered by a provincial workmen's compensation law and the Government Employees Compensation Act applying to Federal Government employees.

Fair wages legislation requires contractors for federal public works and government equipment and supplies to pay wages generally accepted as current in the district. Hours must be limited to eight a day and 44 a week or, on supplies contracts, to those fixed by the custom of the trade in the district. All contracts must contain a clause prohibiting discrimination by the contractor in hiring and employment on grounds of race, national origin, colour or religion.

A Fair Employment Practices Act, applicable to industries under federal jurisdiction, forbids an employer to discriminate against any person seeking employment or already in his employment because of his race, national origin, colour or religion and also forbids a trade union to discriminate on any of these grounds against any person with regard to membership.

The Industrial Relations and Disputes Investigation Act applies to industries within federal jurisdiction, i.e., navigation and shipping; inter-provincial railways, canals, telegraphs, steamship lines and ferries; inter-provincial and international aerodromes and air transport; radio broadcasting stations; and works declared to be for the general advantage of Canada.

The legislation provides for the right of free association of employees and employers, for the safeguarding of that right by prohibiting unfair labour practices, for the certification by the Canada Labour Relations Board of a trade union as bargaining agent for a group of employees, and for compulsory collective bargaining. A collective agreement must contain provision for the settlement, without recourse to strike action, of disputes arising out of its terms. If the parties are unable to negotiate an agreement, they may ask for the appointment of a Government conciliation officer and if, with

his assistance, agreement cannot be reached on all points at issue, the Minister of Labour may appoint a three-member conciliation board. A strike or lockout may not legally take place until seven days have elapsed after the report of a board has been received by the Minister.

Labour Organization

A third of the wage and salary workers in Canada's non-agricultural industries belong to unions. They are distributed across the country in approximately the same proportions as the population generally. The heaviest proportion of the members—63 p.c.—are in Ontario and Quebec, and 13 p.c. are in British Columbia.

Most of the unions to which the Canadian workers belong are affiliated to one of the three large central labour congresses—the Trades and Labour Congress of Canada (596,000 members), the Canadian Congress of Labour (361,000 members) and the Canadian and Catholic Confederation of Labour (100,000 members). In the first two, most of the unions are international in their scope, having headquarters in the United States. There remains, however, one large group of workers belonging to unaffiliated unions which comprise the International Railway Brotherhoods, numbering approximately 41,000 members.

Collective bargaining is a basic function of all the unions. To-day, more than 6,100 agreements are in effect throughout the country. In total, they affect the working conditions of almost 40 p.c. of the non-agricultural wage and salary workers, although the percentage of the workers covered varies by industrial groups. For example, in transportation and communications 78 p.c. of the workers are covered by agreement and in mining 69 p.c. are covered; other industries have lesser proportions of their working force covered. In manufacturing, 55 p.c. of the workers carry on many of their activities under the terms of a collective agreement, in public utilities 50 p.c., service 12 p.c. and trade 8 p.c.

Unemployment Insurance

The Unemployment Insurance Act, 1940, which came into operation in July 1941, provides for a contributory scheme of unemployment insurance and a nation-wide free employment service. The Act is administered by an Unemployment Insurance Commission, consisting of a Chief Commissioner and two Commissioners—one appointed after consultation with organized labour and one after consultation with employers. Regional and local officers strategically located across the country handle applications for employment and claims for unemployment insurance benefit.

All persons employed under a contract of service are insured unless specifically excepted. Exceptions include such employments as agriculture, fishing, domestic service, school-teaching, and those employed on other than an hourly, daily, piece or mileage basis with annual earnings exceeding \$4,800. Persons employed on an hourly, daily, piece or mileage basis are insured regardless of earning level. Employers and their insured workers contribute equally, the contributions being based on the wages or salaries earned. The Federal Government adds one-fifth of the total employer-employee contributions and pays administration costs.

Rates of Contribution and Benefit under the Unemployment Insurance Act

Range of Earnings	Weekly Contributions		Rates of Benefit			
	Em- ployer	Em- ployed Person	Person Without a Dependant		Person with a Dependant	
			Daily	Weekly	Daily	Weekly
	cts.	cts.	\$	\$	\$	\$
While Earning in a Week—						
Less than \$ 9.00.....	18	18	0.70	4.20	0.80	4.80
\$ 9.00 to \$14.99.....	24	24	1.00	6.00	1.25	7.50
\$15.00 to \$20.99.....	30	30	1.45	8.70	2.00	12.00
\$21.00 to \$26.99.....	36	36	1.80	10.80	2.50	15.00
\$27.00 to \$33.99.....	42	42	2.15	12.90	3.00	18.00
\$34.00 to \$47.99.....	48	48	2.50	15.00	3.50	21.00
\$48.00 or more.....	54	54	2.85	17.10	4.00	24.00

Persons Insured under the Unemployment Insurance Act, by Industrial Group, Sex and Province, as at Apr. 1, 1953

Industrial Group	Males	Females	Province	Males	Females
	No.	No.		No.	No.
Agriculture.....	1,590	610	Newfoundland.....	46,650	6,750
Forestry and logging..	71,470	1,700	P. E. Island.....	7,160	2,320
Fishing, hunting and trapping.....	320	—	Nova Scotia.....	78,210	20,260
Mining, quarrying and oil wells.....	88,340	2,570	New Brunswick.....	79,770	17,370
Manufacturing.....	896,490	284,170	Quebec.....	670,710	239,160
Construction.....	193,070	6,800	Ontario.....	936,960	350,470
Transportation, storage and communication..	295,570	48,290	Manitoba.....	131,050	46,290
Public utility operation	30,180	4,130	Saskatchewan.....	53,730	20,810
Trade.....	303,280	191,360	Alberta.....	122,520	37,180
Finance, insurance and real estate.....	43,670	67,360	British Columbia....	215,850	67,460
Service.....	196,560	151,680			
Unspecified.....	6,840	2,050			
Claimants.....	215,230	47,350			
Totals.....	2,342,610	808,070	Totals.....	2,342,610	808,070

During the calendar year 1953 there were 1,675,864 initial and renewal claims filed, 1,189,566 claimants were considered entitled to benefit on initial and on renewal claims, and benefit payments totalled \$148,751,425. Comparable figures for 1952 were 1,388,884 claims, 1,014,257 entitlements to benefit, and payments of \$114,200,316. During the first six months of 1954, 1,142,611 claims were filed, claimants considered entitled to benefit numbered 860,539 and benefit payments amounted to \$144,576,833.

In addition, supplementary benefits are paid during the period Jan. 1 to Apr. 15 each year to certain classes of claimants unable to qualify for the regular benefit. In the 1954 period such benefits amounted to \$14,132,015 paid to an estimated 193,000 persons. This compares with \$9,222,346 paid to 135,837 beneficiaries in the 1953 period.

The National Employment Service.—The Unemployment Insurance Commission operates the National Employment Service rendering service to all workers and employers of Canada through a national chain of 200 offices.

In 1953, a total of 993,406 vacancies were filled by the Service for Canadian employers. Of these 736,188 were jobs for regular employees and 218,013 were casual placements: the number of persons transferred to jobs in other areas was 39,205.

Vocational Training

The Training Branch of the Department of Labour is responsible for the administration of the Vocational Training Co-ordination Act which was introduced in 1942 to provide, in co-operation with the provincial governments, various types of training considered in the public interest. Projects under the Vocational Training Agreement include training for unemployed persons who require such assistance to fit them for suitable employment, special programs for handicapped persons, training of supervisors and foremen in industry, training for members of the Armed Forces, rehabilitation training for veterans and for disabled civilians, special training projects for defence industry, and short intensive courses for young people in rural communities, and for persons engaged in fishing, forestry, mining and other primary industries. The Federal Government pays the full costs for the training of veterans and service men and pays 75 p.c. of the costs of special training projects for defence industry. All other training costs are shared equally with the provinces concerned.

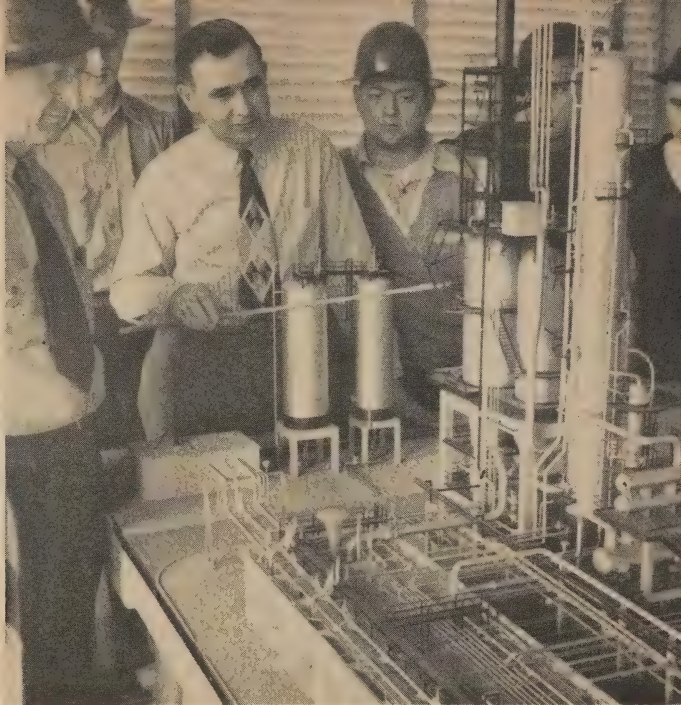
Under an Agreement covering the ten years ending Apr. 1, 1955, financial assistance is being provided to the extent of \$20,000,000, to be shared equally by the Federal Government and the provincial government concerned, for the establishment and operation of vocational and technical schools and classes of lower than university grade. An additional \$10,000,000 has been allotted for capital expenditures on the construction, equipment and extension of vocational schools, trade schools and technical institutes.

The total budget of the Training Branch for the year ended Mar. 31, 1955, was \$4,797,795.

Civilian Rehabilitation

A Civilian Rehabilitation Branch was established within the Department of Labour in February 1951 for the purpose of co-ordinating all activities, both public and private, directed towards the rehabilitation of so-called disabled persons. Working co-operatively with the Department of Labour in this matter are the Departments of National Health and Welfare and Veterans Affairs. Eight provinces have signed Co-ordination of Rehabilitation Agreements with the Federal Government and have appointed provincial co-ordinators, whose salaries and expenses are shared equally by the two levels of government. The provincial staffs are working to co-ordinate on a regional and local basis the efforts of all agencies working with the disabled and to stimulate the interest of the medical profession, management, labour, and vocational and placement services in the potential value of such persons. Training of any type required may be obtained for a disabled person through the Vocational Training Co-ordination Act, provided such training would result in his rehabilitation. Health grants have been supplemented to fill gaps in existing services.

Oil refinery workers are familiarized with the details of a new plant before it comes into operation.



The Older Worker

During the post-war years, the Department of Labour, in co-operation with the National Employment Service and the Department of Veterans Affairs, has carried on an educational campaign designed to bring the facts and effects of the problem of the older worker before the greatest number of responsible citizens.

Canada's steadily aging population, coupled with trends that result in rejection or withdrawal from employment of an important segment of older workers, presents a national problem demanding close scrutiny. In 1881, the number of Canadians over 40 years of age constituted 20 p.c. of the population; by 1951 this had increased to approximately 32 p.c. This trend should be considered in relation to the fact that one of the chief difficulties facing the National Employment Service in matching unplaced applicants with unfilled jobs is a tendency on the part of employers to reject applicants over 40 (over 35 for women). The wide circulation among business executives and personnel men of a film entitled *Date of Birth*, produced for the Labour Department by the National Film Board, resulted in many direct changes in hiring policies of benefit to middle-aged and older workers. Extensive distribution of a memorandum outlining the problem has also proved beneficial.

An Interdepartmental Committee, set up as a sub-committee of the National Advisory Council on Manpower, is at present engaged in a broad program of education and is conducting surveys to fill gaps in Canadian knowledge of many aspects of the full utilization of the abilities and experience of the older worker.



The spreading out of Canadian industry has necessitated continuous extension and modernization of land transportation facilities. In most cases the isolated industrial plant and its satellite community must have immediate road and rail contact with sources of supply and with markets.

Transportation and Communications

EXTENSIVE and efficient transportation and communication facilities are vitally necessary to Canada, perhaps more so than to most other countries. Canada extends more than 4,000 miles from east to west and its main topographic barriers run north and south, tending to separate one section of the country from another. The relatively small population of 15,195,000 is mainly concentrated in a narrow uneven strip along the southern border but, as Canada's great natural resources come under development, the movement is gradually northward. Distance to markets is always great, whether goods are destined for domestic consumption or for export. The task of keeping this vast area—3,845,774 sq. miles—with its scattered population, closely integrated by rail, road, water and air and by radio, telegraph, telephone and post office is fundamentally important to Canada's economic development and to the maintenance of national unity and identity.

• Transportation

The range of requirements for transportation services is so wide that no single medium can meet the demands of industry and the travelling public. The railways have served and will continue to serve as the principal facility of movement because only they have the capacity to supply cheap all-weather transportation in large volume over continental distances. But they are being faced to an increasing extent with specialized competition from air, water, and other land transport enterprises.

The air lines are specialized in speed of movement which gives them a definite advantage in the transport of passenger and mail traffic. The air lines, too, are taking over the opening up of new areas for development, a job formerly carried on, where this was economically and physically feasible, by railway and waterway facilities. Moreover, speed, lower capital outlays in instituting service and ability to reach otherwise inaccessible areas have been instrumental in establishing the air lines in this field. To-day there are many isolated mining properties that have been prospected, proven, developed and maintained by air transport.

Water carriers are specialized in low-cost bulk movement of goods in which speed of service is not a critical factor. Most of the movement in this field is over the Great Lakes-St. Lawrence waterways. About 50 p.c. of the lake tonnage is engaged in carrying grain and the balance carries ore, coal, pulpwood, crude petroleum, limestone and general cargo. The oil pipeline, a relatively new development in Canada is a means of transportation that has a definite advantage over other methods for the movement of petroleum and petroleum products.

Road transport has, of course, since the earliest days, played an unparalleled part in local passenger and freight movement. This service has gradually extended until now it provides great arteries for both short- and long-distance commercial and passenger traffic. The relatively low cost of operation of commercial road vehicles makes them particularly suitable for short-haul traffic moving in comparatively small volume.

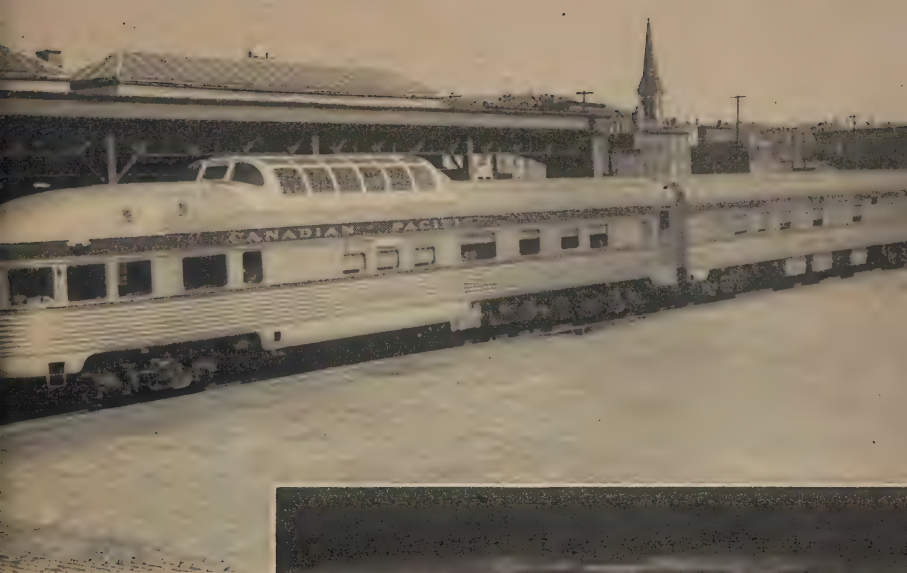
Railways

There are two great railway systems in Canada, the Canadian National Railways, a government-owned system formed from the consolidation of several private and government lines in 1923, and the Canadian Pacific, a joint-stock corporation which began transcontinental operations in 1885. Each has a transcontinental line and a network of branch lines connecting the principal urban and rural centres of Canada. Each company constitutes an immense organization, serving the public in many fields of transportation and communication. The CNR is Canada's largest public utility operating, in addition to its rail network and the multifarious associated facilities, a fleet of coastal and ocean-going steamships, a nation-wide telegraph service providing efficient communication between all principal points of Canada with connections to all parts of the world, express facilities in Canada and abroad, a chain of hotels, a scheduled trans-Canada and North America air service and a trans-Atlantic air service. The CPR, in addition to its far-flung railway operations, also has a fleet of inland, coastal and ocean-going vessels, a north-south air-line system which is one of the world's greatest air freight carriers, a trans-Pacific air-line service to the Orient and the Antipodes, an air service to Mexico and Peru, a chain of year-round and resort hotels, a cross-Canada telegraph network, a world-wide express service, and a truck and bus transport service.

These two transportation systems co-operate, under government supervision, in avoiding unnecessary duplication of railway service. The Board of Transport Commissioners controls freight and passenger rates as well as other matters relating to construction, operation and safety.

The combined length of line operated by these two companies, together with that owned by a number of smaller companies, was 58,695 miles in 1953. Gross operating revenues of all railways amounted to \$1,205,935,414 and operating expenses were \$1,100,393,836, compared with \$1,172,158,665 and \$1,057,186,304 in 1952. The 65,267,015,500 ton-miles of freight carried in 1953 was a decrease of 3,163,401,537 ton-miles as compared with 1952. Passengers carried numbered 28,736,159 compared with 30,167,145 in 1952 and employees averaged 211,951 as compared with 214,143.

There has been little change in the mileage of single-track line since the 1920's but recently the construction of several large industrial projects in outlying districts has sparked a new phase of railway building. Although aircraft are playing an important role in the discovery of new resources and in their early development, the provision of railway services is absolutely essential to the continuing life of nearly all such projects. Only the railway can provide a permanent, dependable and adequate link with the markets of "civilization". Three new lines, opening up entirely new districts, have been completed—the 43-mile Terrace-Kitimat line in British Columbia, the 144-mile Sherridon-Lynn Lake line in Manitoba, and the 360-mile Quebec, North Shore and Labrador Railway. A 17-mile branch line was built during 1954 between Havelock and Nipigon in Ontario, providing a rail outlet for a new mine at the latter point. Two others, one into the Chibougamau area of northern Quebec and the other into the Manitouwadge area of north-western Ontario—both new mining districts—are under initial development.



cenic dome lounge cars are part of the ultra modern stainless steel passenger equipment recently placed in transcontinental service by the Canadian Pacific Railway. The cars have been designed to provide the ultimate in comfort and enjoyment for the rail passenger.



self-propelled diesel-powered day-liner carries passengers, express and mail from Mattawa, Ont., 100 miles north to Angliers, Que. Passenger day-liners are in service between other centres.





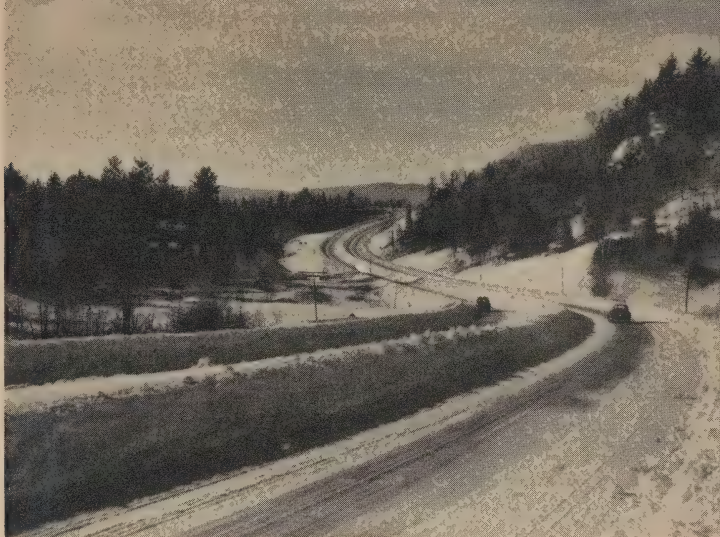
Most cities in Canada have experienced a decline in the passenger load of mass transportation systems. Ottawa's municipal system, which operates street cars and motor-and trolley-buses, is no exception, passenger traffic in 1954 having declined by one-third from the peak in 1946.

Urban Transport Services

Widespread changes in urban transport systems have been taking place in recent years. Electric street railways have been replaced or supplemented in many Canadian cities by motor-buses and trolley-buses and a large number of inter-urban electric lines have been abandoned. Most urban transportation systems are owned and operated by the municipalities.

In 1953, urban transit systems carried 1,310,156,000 passengers compared with 1,353,213,000 in 1952. Inter-urban services carried 93,089,159 passengers, 4,416,710 fewer than in the previous year. There has been a definite downward trend in traffic on transit facilities since 1949. A large proportion of the 2,554,000 private passenger vehicles in use, including automobiles and motorcycles, is competitive with the transit systems. The recent rapid development of suburban areas has had the effect of encouraging the purchase of private cars as well as increasing the operating costs of transit-company service. At the same time, the advance in fares made necessary mainly because of this suburban expansion has discouraged to some extent the previously profitable short-haul city traffic.

*Highway from
Montreal to the
heart of the Laur-
entian resort area,
at a point near
Ste. Adele, Que.*



Roads and Highways

Canada, at the end of 1952, had 181,306 miles of surfaced road and 331,489 miles of non-surfaced road. Of the surfaced road, 152,657 miles were gravel, 26,770 miles were bituminous-surfaced and 1,879 miles were concrete.

All roads, except those in the Territories, the National Parks and Indian reserves, which are the responsibility of the Federal Government, are under the jurisdiction of provincial and municipal authorities. Of the almost \$404,300,000 spent in 1952 on new construction and maintenance of roads, bridges, ferries, and other works, \$350,000,000 was supplied by the provincial governments and the remainder by the federal and municipal governments. To appreciate fully the use made of public roads and the high cost of maintenance, it must be realized that motor-vehicle registrations have more than doubled in the past eight years, rising from 1,622,463 in 1946 to 3,430,672

*Highway near the
Skagit River be-
tween Hope and
Princeton, B.C.*



in 1953. In addition to domestic traffic, Canadian highways carry millions of foreign tourist cars annually, more than 8,235,000 entries having been recorded in 1953. Again, apart from wear and tear by vehicles, the natural climatic conditions such as snow, frost and floods, play havoc with the roads.

The construction of a national coast-to-coast highway was sanctioned in December 1949. Every province, except Quebec, is participating in the plan and is undertaking to construct and maintain that portion of the highway, other than on federal lands, within its borders. The general administration and co-ordination of the program is the responsibility of the Federal Government, which also shares equally with each province the cost of new construction and the cost of construction of existing highways taken into the system.

The route, selected by the provinces, covers a distance of 4,993 miles, including the mileage across Quebec. By the end of March 1954, 4,723 miles were considered passable for vehicular traffic but only 2,094 miles were paved. The 270 miles not yet constructed included 80 miles between Clarendville and Gander, and 60 miles between Flat Bay and Tompkins in Newfoundland, together with 130 miles in northern Ontario between Chapleau and Schreiber.

Motor-Vehicles

There were more motor-vehicles registered in Canada in 1953 than ever before. Of the 3,430,672 registrations—compared with 3,155,997 in 1952—2,513,754 were for passenger cars and 916,918 for commercial vehicles and motorcycles, including 820,110 trucks, 8,968 buses, 40,177 motorcycles and 47,663 other vehicles. Registrations in the different provinces were as follows: Newfoundland, 29,576; Prince Edward Island, 20,286; Nova Scotia, 129,564; New Brunswick, 93,914; Quebec, 617,855; Ontario, 1,406,119; Manitoba, 203,652; Saskatchewan, 257,504; Alberta, 318,812; British Columbia, 348,830; and the Yukon and Northwest Territories, 4,560.

Provincial revenues from motor-vehicle registrations and licences reached a high of \$87,788,069 in 1953, and provincial gasoline tax revenues amounted to \$219,876,095. Taxable gasoline sold, most of which was consumed by motor-vehicles, amounted to 1,902,514,817 gal. in 1953.

The apparent supply of new passenger vehicles in 1953 amounted to 373,072 cars, 92,963 more than in 1952. The 1953 figure includes 319,937 cars made for sale in Canada plus 53,179 imports, less 44 re-exports of imported cars. In that year, 359,172 passenger cars valued at \$899,726,000 were sold, as well as 103,354 trucks and buses valued at \$262,745,000. Only 40.9 p.c. of the number and 29.4 p.c. of the value of these vehicles were financed by finance companies. The average financed value was \$1,810.

Motor-Carriers.—The movement of freight and passengers by motor-vehicle has assumed great importance in the national transportation picture during the past quarter-century. Since the end of World War II, particularly, motor-vehicle traffic has advanced considerably with the improvement of equipment and the extension of hard-surfaced highways.

Motor-carrier statistics do not represent a complete coverage of the industry, which is largely made up of small businesses with hundreds of licensees, each operating one or two trucks. Their bookkeeping is often sketchy and, at the same time, amalgamations and retirements are numerous, making a census difficult. In 1951, 4,275 carriers reported and, of these, 2,276

were small operators with revenues under \$8,000 for the year, most of them driver-owner operated. Seven hundred and sixty-eight freight carriers had revenues of between \$8,000 and \$19,999; 810 had revenues of \$20,000 or over. There were 421 passenger carriers including urban and inter-urban systems other than those operating streetcars or trolley-buses.

Statistics of Motor-Carriers, 1948-51

Item		1948	1949	1950	1951
Investment in land, buildings, and equipment.....	\$	105,126,021	124,984,523	141,213,577	160,225,318
Revenue.....	\$	138,468,317	159,631,109	179,301,971	200,616,604
Equipment—					
Trucks.....	No.	9,769	10,937	11,126	11,368
Tractors, semi-trailer.....	"	2,920	3,197	3,640	4,081
Trailers.....	"	1,755	1,825	2,496	3,281
Buses.....	"	4,097	4,623	4,710	4,874
Passengers carried.....		295,672,437	376,187,446 ¹	363,341,945	365,946,738
Freight, inter-city and rural ² . ton		13,889,337	15,087,704	19,009,488	18,248,756

¹ Increase accounted for largely by the inclusion of two companies formerly reported as electric railways. ² This item is not reported by all carriers.

Shipping

The importance of shipping in the economy of the country may be realized when consideration is given to the fact that Canada is one of the world's major trading nations and that a large portion of the goods coming into and leaving the country does so by way of the sea. Also, Canada possesses large navigable waterways extending inland which not only lead to the seaports but provide, as well, cheap service from one point to another along the way. The inland lakes and rivers are almost innumerable and there are vast outlying areas where water is still the only available means of transportation. Many settlements along both the east and west coasts depend entirely upon shipping for the transport of goods and passengers.



largest ship on the Great Lakes, the 751-ft. Canada Steamship Lines carrier "T. R. McLagan" unloading her first shipment of iron ore at Hamilton on May 1, 1954.

There is no record of all the freight carried by water in Canada, but there is a record of the number and tonnage of ships calling at all ports at which there are customs collectors and of cargoes of vessels trading between these ports. All waterways including canals and inland lakes and rivers are open on equal terms, except for the coastal trade, to the shipping of all countries of the world so that the commerce of Canada is not dependent entirely upon Canadian shipping. However, a large part of the inland and coastal traffic is carried in ships of Canadian registry.

During 1953, customs officials reported 123,075 vessel arrivals in foreign and coasting service as compared with 113,505 and 118,875 in 1952 and 1951, respectively. The total tonnage of all cargoes loaded and unloaded in foreign trade at all Canadian ports amounted to 70,894,082 tons, of which 28,485,923 tons or 40.2 p.c. was carried by vessels of Canadian registry.

As in former years, the bulk of foreign trade was with the United States which accounted for 42,993,787 tons, or 60.6 p.c. of the total. Canadian vessels carried 62.3 p.c. of this water-borne commerce. In trade with other countries, however, Canadian shipping fared less well, carrying only 1,680,709 tons of a total of 27,900,295 tons. Most of this freight was carried by vessels of the United Kingdom, United States, Panama, Norway and Sweden.

In 1953, commodities exported amounted to 32,202,205 short tons, slightly lower than the 1952 total. Loadings at Great Lakes and Pacific ports were higher than in the previous year but at Atlantic and lower St. Lawrence River ports tonnages declined 5.1 p.c. Major Canadian exports, with the 1952 totals in parentheses, include: wheat 7,588,616 tons (9,077,612); iron ore 4,907,331 tons (3,946,098); lumber 2,110,304 tons (1,886,989); newsprint 1,997,009 tons (1,810,461); and pulpwood 1,553,414 tons (1,871,668).

Imports also declined slightly to 38,691,877 tons from 38,756,206 tons in 1952. Lighter shipments were reported for petroleum oils, which decreased to 3,613,160 tons from 3,929,039; cement which dropped to 109,293 tons from 215,718, limestone, iron, crude oil and other mine products. Increases were reported for bauxite, fertilizers, corn, sand, chemicals and general freight.

The gross investment in vessels, docks, wharves, warehouses, land and buildings, and equipment reported by the water transportation industry in 1952 amounted to \$283,291,000. Gross income received from this investment was \$288,198,000. The industry employed 20,192 workers and paid out \$47,567,000 in salaries and wages, an average of \$2,356 which did not include the value of meals and lodging estimated at \$5,876,000.

Lighthouses and other marine danger signals, a pilotage service and radio signal and direction-finding stations, as well as federal legislation and regulations, maintain a high standard of safety for navigation in and around Canada.

Harbours

Overseas exports and imports comprise a large proportion of Canada's international trade and the long routes over which these commodities travel—the overland routes and the sea lanes—are linked together by a number of deepsea harbours. Having in mind the importance of deepsea ports as inherent and vital units in the national system of transportation, and for purposes of ensuring greater efficiency and economy in operation, improvement



Ships are the life-line for many isolated communities along Canada's extensive sea coasts, on the long reaches of her northern rivers and on the shores of her Great Lakes.

▲
The "William Carson", new
in service between Nova
and Newfoundland.



▲
Loading material and equipment at Montreal
to supply outposts along Quebec and
Labrador coasts.



▲
Last of the sternwheelers, the "Whitehorse"
still plies the Yukon River between Dawson
and Whitehorse.

A number of pas-
enger and freight
vessels operate
out of Vancouver
serving communi-
ties along the
Strait of Georgia.



and strengthening of engineering services as well as uniformity in regulations and tariffs, eight of these harbours have been placed under a permanent central board for administration as national ports in accordance with national policy and with the assistance of national credit. The National Harbours Board is an agency of the Crown, responsible to Parliament through the Minister of Transport. Seven other harbours are administered by commissions that include municipal as well as federal appointees and, in addition, there are about 300 public harbours, all of which come under the supervision of the Department of Transport.

The harbours administered by the National Harbours Board are Halifax and Saint John on the Atlantic seaboard; Chicoutimi on the Saguenay River and Quebec, Three Rivers and Montreal on the St. Lawrence River in Quebec; Churchill on Hudson Bay and Vancouver on the Pacific Coast. Assets administered by the Board represent, at cost, an outlay of \$236,000,000, and facilities include wharves, vessel berths, transit sheds, grain elevators, cold-storage warehouses, terminal railways, shore and floating equipment, workshops, electric-power and water-supply systems and industrial sites. The extent and variety of facilities at each port are, of course, influenced by the nature and volume of the traffic passing through that port. In general, the objective is to make the national harbours as self-sustaining as possible, first, by business-like management and, second, by charges for the use of facilities and services that are fair by accepted standards. It is the policy of the Board to provide the necessary major facilities for public use but to refrain from performing certain services that can be provided adequately by private interests.

The freight loaded and unloaded at the larger ports from sea-going vessels frequently constitutes a surprisingly small part of the total freight handled. Usually, the volume coming in or going out by coasting vessels is larger. It is not possible to obtain statistics of freight handled in all ports and harbours, but the water-borne cargo handled at the eight principal ports in 1953 was as follows:—

	<i>Tons</i>		<i>Tons</i>
Halifax.....	4,402,716	Montreal.....	16,899,341
Saint John.....	2,474,858	Churchill.....	330,024
Chicoutimi.....	281,161	Vancouver.....	11,836,533
Quebec.....	3,256,548		
Three Rivers.....	3,044,056	TOTAL.....	42,525,237

Canals

The canals of Canada may be divided into two classes: the main route canals on the St. Lawrence River and the Great Lakes, including the Lachine, Soulanges, Cornwall, Farrans Point, Rapide Plat and Galop Canals on the St. Lawrence River, the Welland Ship Canal between Lakes Ontario and Erie, the Sault Ste. Marie Canal between Lake Huron and Superior; and subsidiary canals or branches including the St. Peters Canal between Bras d'Or Lakes and the Atlantic Ocean, Nova Scotia; the St. Ours and Chambly Canals on the Richelieu River, Quebec; the Ste. Anne, Carillon and Grenville Canals on the Ottawa River; the Rideau Canal between the Ottawa River and Lake Ontario; and the Trent and Murray Canals between Lake Ontario and Georgian Bay in Ontario.



Welland Canal at Thorold, Ont.

Evidence of the importance of this transportation system as a highway of commerce is the fact that, during 1953, 33,373,064 tons of freight passed through the canals in 27,563 vessels. In addition, thousands of pleasure craft locked through; one point, Sault Ste. Marie, was passed by 105,366 passengers.

The St. Lawrence waterway with its ship channel and series of canals is the world's greatest inland navigation system, providing as it does a great navigable artery from the Atlantic Ocean to the western end of Lake Superior, a distance of more than 2,200 miles. The development of this waterway as a highway of international trade has involved a series of engineering projects in keeping with the increasing demands of traffic and the safety of larger and faster ships. Throughout its course, 31 locks overcome a rise in level of 600 feet. At present the canals on the St. Lawrence River have a navigable depth of up to 14 feet but between the lakes the navigable depth is 25 feet, permitting the passage of large lake freighters from the Upper Lakes to Prescott on the St. Lawrence. Plans are under way for deepening the St. Lawrence channel to permit these freighters passage to the Atlantic and to allow large sea-going vessels to ply the Great Lakes.

Civil Aviation

The control of civil aviation in Canada is under the jurisdiction of the Federal Government. The Department of Transport deals with the technical



The air strip about eight miles from Uranium City is the terminal of its only means of transportation to and from the outside world. Saskatchewan Government aircraft is being loaded before flight to Prince Albert.

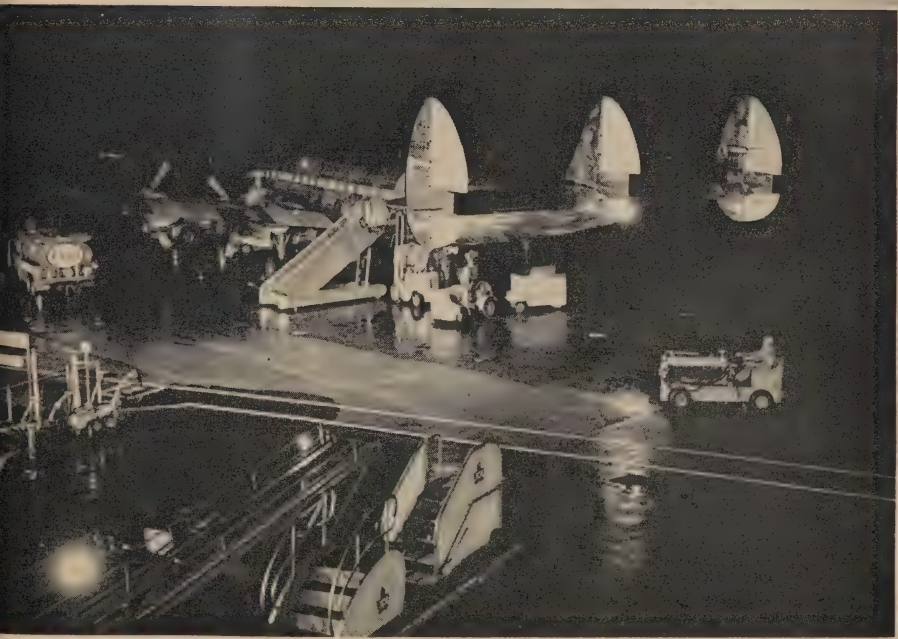
side, which includes matters of registration of aircraft, licensing of airmen, establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation and the safe operation of aircraft. Certain statutory functions with respect to the issue of licences to operate commercial air services and the subsequent economic regulation of commercial air services in accordance with the dictates of the public interest are assigned to the Air Transport Board.

Air transport services are grouped into two broad classes—non-scheduled services and scheduled services.

Non-scheduled Services.—Non-scheduled services include specific point-to-point services not on regular time schedules; charter and contract services; and specialty services. Such services provide access to sections of Canada that are inaccessible by other means of transportation and also act as feeders to the scheduled airlines. The use of aircraft has become vital to the exploration and development of the remote parts of Canada and has made many projects in otherwise inaccessible areas economically sound and physically possible. The helicopter, for example, played an essential role in the transport of equipment and supplies, as well as engineering and other working parties during development of the Kitimat project in British Columbia. In the year ended Mar. 31, 1954, non-scheduled operators flew 17,003,386 revenue miles, carried 343,973 passengers, 115,893,061 lb. of goods and 802,260 lb. of mail.

Besides transportation, the non-scheduled operations provide a variety of services, thus making important contributions to the discovery, conservation and development of the natural resources and to the expansion of the Canadian economy. Aerial photography, which has been highly developed, is applied to geological surveys, mapping, timber-estimating and operation-planning, as well as to the planning of oil pipelines, roads and many large construction projects. An outstanding contribution by aircraft has been made in the field of exploration and prospecting for minerals. Aircraft have long been employed for the protection of forests by the use of fire-spotting aerial patrols, by aiding in fire-fighting operations and by the dusting of forest areas

A Vickers Viscount, first propeller-turbine airliner in the world, started carrying passengers in Canada in February 1955. Twenty-two Viscounts will be in service for TCA by 1957.



TCA Super Constellation at Vancouver Airport.

Bristol freighters, with five-ton capacity, are now supplementing TCA's regular freight service.



against destructive insects. In the agricultural sphere, aircraft are used for crop-dusting and spraying to control insect pests, and for seeding and frost control. In connection with the protection of wildlife resources, aircraft are used to patrol wide areas for the detection of poachers and violators of fish and game regulations, and for the stocking of lakes and streams with fingerlings. Among the many other services performed by means of aircraft are: patrolling power lines and pipelines, police activities, missionary work, aerial ambulances and advertising.

At Mar. 31, 1954, there were 173 commercial operators licensed to conduct scheduled, non-scheduled and specialty services, and there were 96 flying schools and flying clubs licensed for training activities.

Scheduled Services.—*Trans-Canada Air Lines.*—TCA lines provided air transportation during 1953 for 1,307,810 passengers and carried 14,000,000 lb. of freight over its North American and international routes. This was an increase of 16 p.c. in passenger traffic and 18.4 p.c. in commodity business over 1952. In performing these services TCA flew 11 p.c. more scheduled miles on all services; *North Star* seating capacity was increased and three *Bristol* freighters were added to the fleet to facilitate commodity transport. The Company staff numbered 7,072.

During the year, service was extended to Sudbury and, on a summer schedule, to Muskoka, providing air transport to the industrial and resort areas of northern Ontario. In January 1954, Canada and Mexico were linked by air with an initial schedule of one flight weekly. TCA provides service for passengers, mail and commodity traffic over North American routes totalling 9,916 miles; international routes total 9,415 miles and serve the United States, England, Scotland, Ireland, France, Germany, Mexico, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad.

Statistics of TCA operations for 1953 are as follows:—

	No.
Revenue miles flown.....	30,171,902
Revenue passengers carried.....	1,307,810
Revenue passenger miles flown.....	759,319,800
Revenue goods ton miles flown.....	8,402,761
Mail ton miles flown.....	5,373,841

At the end of 1953, the TCA fleet consisted of 23 *North Stars*, 26 DC-3's, three *Bristol* freighters and one DC-3 cargo liner. In 1954 a new *Super Constellation* fleet was put into service on both the transcontinental and trans-Atlantic routes, reducing considerably long-distance flight time. Also a number of Vickers *Viscounts* were added to the inter-city service.

Canadian Pacific Air Lines, Limited.—CPA operates scheduled domestic services over routes covering 10,723 miles and overseas services from Vancouver to the Orient, the Antipodes, and South America via Mexico covering 20,676 miles. Domestic services, which are flown with DC-3, DC-4 and Convair 240 equipment, are centred largely in western and northern Canada with two daily services flown in the Montreal-Quebec-Toronto area. Overseas routes are flown exclusively by DC-6B aircraft with configurations designed to accommodate both tourist and first-class passengers.

Tourist fares were introduced on the Vancouver-Honolulu and the Vancouver-Mexico routes, as a result of which traffic increases of up to 400 p.c. were experienced.

Summary statistics of CPA operations for 1953 are as follows:—

	No.
Revenue miles flown.....	9,209,089
Revenue passengers carried.....	231,131
Revenue passenger miles flown.....	166,323,904
Revenue goods ton miles flown.....	1,862,732
Mail ton miles flown.....	722,450

Maritime Central Airways, Limited.—Scheduled flights serve Charlottetown and Summerside in Prince Edward Island; Moncton, Fredericton and Saint John in New Brunswick; New Glasgow and Halifax in Nova Scotia; and the Magdalen Islands. In addition to these daily flights, service is provided to Goose Bay in Labrador, Gander and St. John's in Newfoundland, and to the French Islands of St. Pierre and Miquelon. Air freight charter work in the north accounted for a large share of the Company's revenue.

During 1953 the Company increased its service to 2,911,256 revenue miles; 64,906 passengers and 4,607 tons of goods were carried, and 2,462,969 tons of revenue goods and 69,814 tons of mail were flown. The Company has at present a fleet of heavy aircraft, including nine DC-3's, three Lockheed 10A's, three De Havilland *Beavers*, three PBV-5A *Cansos*, one Mk V *Anson* and one *Bristol 170* freighter.

Queen Charlotte Airlines Limited.—This Company operates scheduled services in British Columbia between Vancouver, Tofino, Comox Airport, Westview Airport, Alert Bay, Minstrel Island and Sullivan Bay, B.C. Non-scheduled services are operated from Vancouver, B.C., serving Tofino,

"Beaver" aircraft, commercially operated, follows the twisting Liard River on its course from northwestern British Columbia to the Northwest Territories where it joins the Mackenzie River system. These aircraft keep geological parties, operating along the Liard, supplied with food and mail.



Muchalat, Nootka, Tahsis, Ceepeecee, Zeballos and Chamiss Bay; Prince Rupert, B.C., serving Ketchikan, Alaska; and between Prince Rupert and Vancouver. During 1953, 57,681 revenue passengers, 305,716 lb. of goods and 170,479 lb. of mail were carried, and 6,794,845 revenue passenger miles were flown.

Quebecair Inc.—Quebecair Inc. has succeeded Rimouski Airlines Ltd. and Gulf Aviation Inc. It has continued to operate the same service joining the south and north shores of the St. Lawrence River by providing scheduled services between Rimouski, Mont Joli and Matane, Que., and Forestville, Baie Comeau and Seven Islands, Que. During 1953, revenue passengers carried numbered 86,413, and 806,013 revenue miles, 4,500,482 revenue passenger miles, 80,104 revenue goods ton miles and 19,534 mail ton miles were flown.

Central Northern Airways Limited.—Central Northern Airways Limited provides a scheduled service between Winnipeg, Man., and Red Lake, Ont. During 1953 the line carried 15,171 passengers, 4,186,209 lb. of revenue freight and 443,280 lb. of mail. Revenue passenger miles flown numbered 1,281,063.

Private Flying.—At Mar. 31, 1954, there were 1,203 private aircraft registered in Canada. Many of these are used by ranchers, farmers, oil men and commercial firms as part of their business equipment.

International Agreements.—Canada's position in the field of aviation as well as its geographical location has necessitated co-operation with other nations engaged in international civil aviation. Canada played a major role in the establishment of the International Civil Aviation Organization, now with permanent headquarters at Montreal, and through the activities of that Organization has benefited by the joint knowledge and experience of all Member States in all the technical and economic aspects of civil aviation.

In recent years Canada has been a signatory to agreements concerning civil aviation with Australia, Belgium, Denmark, France, Ireland, the Netherlands, New Zealand, Norway, Portugal, Sweden, United Kingdom and United States. On the North Atlantic, Canada was given extended rights for traffic from Ireland, Iceland and the Azores, and also rights in Belgium and landing rights in France.

On the Caribbean route, rights have been obtained in Florida from the United States and for points of call in British territories. In the Pacific, agreements provide for calls at Honolulu, Fiji and Hong Kong. In the trans-border field, TCA has the right to operate from Montreal to New York, and from Montreal and Toronto to the Bahamas and Jamaica with stops at Tampa or St. Petersburg, Florida. Operating certificates have been issued to 14 Commonwealth and foreign scheduled services flying into Canada.

Pipelines

At the end of 1953 there were approximately 3,700 miles of crude-oil trunk lines, gathering lines and oil-products lines in Canada and, in addition, 960 miles of lines in the United States (between Gretna, Man., and Sarnia, Ont.) carrying Canadian crude oil. The major line is the Interprovincial pipeline extending from Edmonton, Alta., to Sarnia, Ont., a distance of

1,765 miles. The present capacity of this line is 200,000 bbl. a day. Several short pipelines, both trunk and gathering, are directly connected with the Interprovincial pipeline, either delivering crude from the oilfields to Edmonton or Redwater, or are offshoots of the main line supplying oil to points along the way. The Trans-Mountain pipeline, 718 miles in length from Edmonton to Vancouver, delivers western crude to British Columbia refineries and in future will serve other refineries in the Pacific northwest. Oil from Venezuela, Arabia and other countries reaches Montreal refineries through a pipeline extending from Portland, on the coast of Maine, and oil products pipelines link the Montreal refineries with consuming centres along the St. Lawrence River as far as Toronto and with Ottawa. Other pipelines supply southern Ontario centres with products of Sarnia refineries. In 1953, 147,303,771 bbl. of oil were carried over Canadian pipelines.

Plans are under way for the building of extensive gas lines in Canada in the next few years but construction so far has been confined to local areas.

• **Communications**

Telegraphs and Cables

In 1953 there were seven telegraph systems operating in Canada, four in conjunction with the railways, two operated by the Federal Government, and one small system owned and operated independently. One United States company uses lines crossing Canadian territory.

On Apr. 1, 1950, a Crown corporation, the Canadian Overseas Telecommunication Corporation was formed to establish public ownership and consolidation of Canada's radio and cable systems in line with the recommendations of the Commonwealth Telegraphs Conference held in Australia in 1942. The Corporation operates 24,411 nautical miles of cable and a transoceanic wireless system. In addition to the Crown corporation, two private companies operate cable and wireless systems. In all there are 36 cables between Canada and the United States, England, Ireland, the Azores, Australia, New Zealand, St. Pierre and Miquelon, and Bermuda. Two cables link North Sydney and Canso, N.S., three cables North Sydney and Newfoundland, and two cables Canso and Newfoundland.

These systems have 445,532 miles of telegraph wire in Canada, 5,303 miles outside of Canada, and 61,370 nautical miles of submarine cable between Canada and other countries. In 1953, they handled 21,222,706 telegrams and 2,042,921 cablegrams, excluding messages between foreign countries.

Telephones

At the end of 1953, Canada had 3,606,407 telephones; with 24 per 100 population, the country ranked third in the world in this respect, after the United States and Sweden. Virtually all Canadian telephones are capable of connection one with another or with any of the more than 50,000,000 telephones serving the United States. The estimated number of telephone calls on all systems in Canada totalled 6,084,655,000 in 1953, representing an average of 1,687 calls per telephone or 412 calls per head of population. Long-distance calls accounted for nearly 132,000,000 of the total, many of

them calls to other countries. Long-distance connections to 113 other countries and territories are available, making accessible to Canadians over 96 p.c. of the world's telephones.

Although 2,793 separate telephone systems operated in Canada in 1953, there was a high degree of co-operation among them. Long-distance service on a national scale was provided by the Trans-Canada Telephone System comprising the seven major units operating in the more heavily populated areas from the Maritime Provinces on the east to British Columbia on the west. Of the total number of systems, 2,205 were small co-operatives serving rural districts. The largest of the 419 shareholder-owned companies were the Bell Telephone Company of Canada and the British Columbia Telephone Company. The Bell Telephone and its subsidiaries operate in Ontario and Quebec and serve almost 60 p.c. of all telephones in Canada. The systems of the three Prairie Provinces, owned by the respective provincial governments, reported 11 p.c. of the total. Service in some remote areas was provided by provincial or federal lines.

Large amounts of new capital have been applied in recent years to the evolution of Canadian telephone services. At the end of 1953, total investment in telephone systems amounted to \$1,152,309,749. Employees in telephone service numbered 50,540 and in 1953 they received a total of \$145,109,934 in salaries and wages.

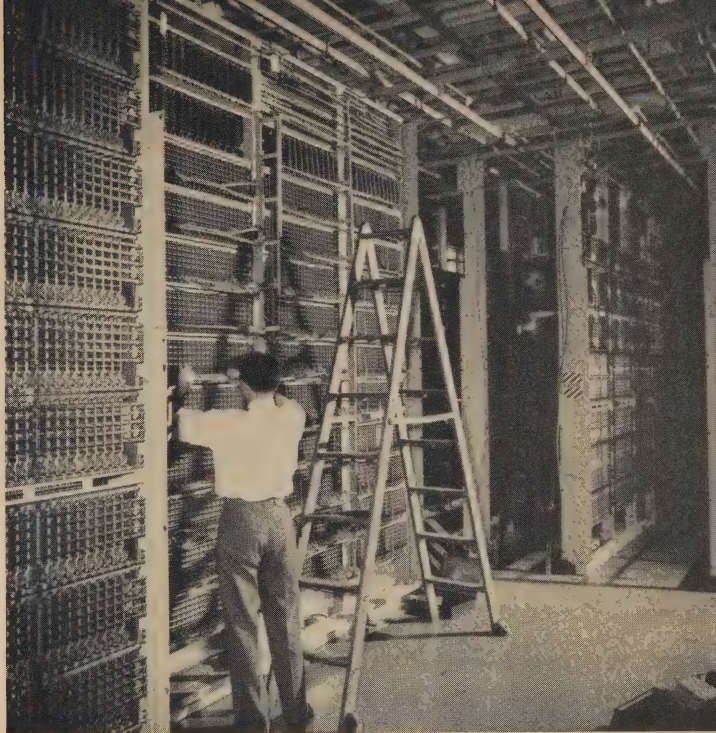
Technologically, the recent development of the Canadian telephone industry has kept pace with its rapid growth. The constant process of refinement of equipment and methods for local service maintains high standards of service. It is in the long-distance field, however, that the more spectacular recent advances have been made, in both the switching and the transmission of calls.

In Canada, a continent-wide long-distance dialing network is now rapidly evolving. Operating independently on all-Canadian calls, it will connect with a similar network being developed in the United States to form an integrated North American direct distance dialing system. Complex electronic equipment in regional centres will accept calls dialed into it by operators in tributary centres and, without intervention by other operators, will select



Locomotive operators in the Cape Breton coal mines keep in constant communication with dispatchers on the surface by radio telephone.

sensitive complex telephone equipment will some day make telephones in all sections of Canada and the United States part of one giant continent-wide exchange. Through this machine, which will be in operation in 1955, Toronto telephone operators will be able to dial directly to telephones as far away as San Francisco.

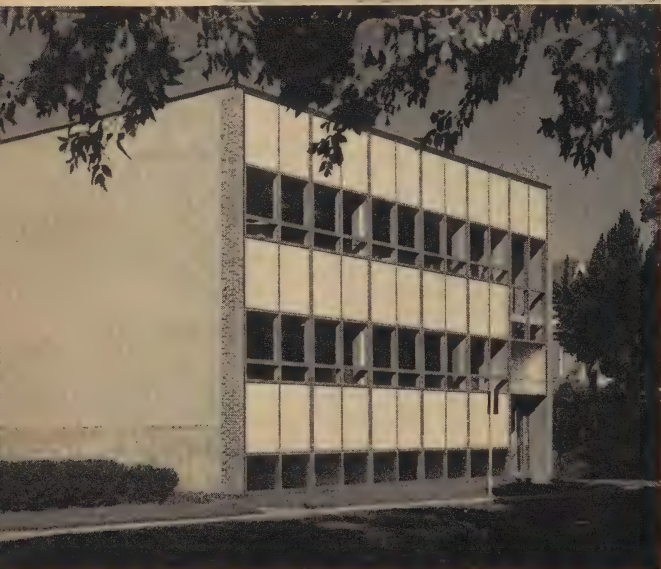


the most direct available route to a destination and ring the called telephone. Montreal and Regina are to be regional centres for Canada. Beyond the automatic switching centres, calls will travel as they now do over physical circuits or on carrier channels, superimposed on either wire circuits or microwave radio beams.

The microwave radio relay system opened in 1953 by the Bell Telephone Company of Canada to carry network television programs as well as long-distance telephone calls between Toronto, Ottawa and Montreal has been extended eastward to Quebec city. A westward extension from Toronto to the Manitoba boundary is under construction; it will be continued to Winnipeg by the Manitoba Telephone System.

Additional channels for telephone communication between North America and Europe, now carried by short-wave radio systems, will soon be provided by the first trans-Atlantic telephone cable. The new system, planned to go into operation by the end of 1956, will provide 36 two-way telephone channels. It will be installed, owned and operated jointly by the Canadian Overseas Telecommunication Corporation—a Canadian Government corporation—the British Post Office, and the American Telephone and Telegraph Company. Submarine cable will span the 2,000 miles between Newfoundland and Scotland and the 300 miles from Newfoundland to Cape Breton. From Cape Breton the intercontinental circuits will be extended by a microwave radio relay system to Canadian and United States terminal points.

CHED, third commercial radio station to operate in Edmonton, Alta., opened early in 1954.



Letters of congratulation pour in during first week of broadcasting.

Radio

There were 171 standard broadcast band stations operating in Canada on Nov. 1, 1954, of which 21 were Canadian Broadcasting Corporation stations and 150 were privately owned stations. In addition there were 37 shortwave stations, of which 29 were CBC and eight were privately owned, together with five CBC and 26 non-CBC frequency-modulation stations.

Canadian Broadcasting Corporation.—The publicly owned Canadian Broadcasting Corporation is operated as a national public service; privately owned stations provide local community service, and many are affiliated with the CBC networks. As constituted under the Canadian Broadcasting Act, the CBC is responsible to Parliament through a Minister of the Crown. From time to time, the work of the CBC is reviewed by a special Committee

of the House of Commons. The last such committee, reporting in May 1953, noted the expansion and improvement of sound broadcasting and endorsed the development of the national television service in which both the CBC and privately owned stations would play their part.

CBC policy is determined by a Board of 11 Governors who act as trustees of the national interest in broadcasting. The Governors, representing the main geographic divisions of Canada and various facets of Canadian life, are appointed by the Governor General in Council for three-year terms. The Chairman is appointed for a ten-year term on a full-time basis. All operations and activities of the Corporation are carried out under the direction of the General Manager, who is the Chief Executive, and the Assistant General Manager. The CBC's income in sound broadcasting is derived from a current annual grant of \$6,250,000 together with revenue from a 15-p.c. excise tax on radio, television and phonograph sets and tubes, and revenue from some commercial programs. Present television operations are financed through the same excise tax and commercial programs.

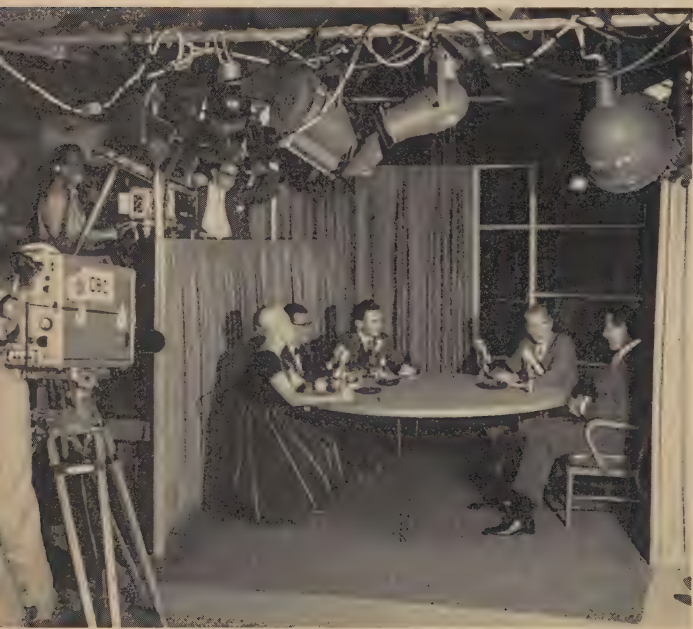
Radio Broadcasting Facilities and Program Service.—The CBC operates 80 transmitters for its National Service and two for its International Service. Twenty-one are standard band AM stations, eight of which are of 50,000 watts to give good service to rural areas; five are frequency-modulation transmitters; four are shortwave transmitters (used on 11 frequencies) to reach remote areas; and 50 are low-power "repeater" transmitters operating automatically with the network lines and serving sparsely settled areas. CBC network services reach more than 98 p.c. of the radio homes in Canada. Program service extends from St. John's, Nfld., in the east to Vancouver Island in the west. The Trans-Canada and Dominion networks serve English-speaking listeners from coast to coast, and the French network serves French-speaking listeners from Moncton, N.B., to Edmonton, Alta. Ninety-five of the privately owned stations in Canada function as network outlets.

Canada's system of broadcasting is designed to overcome the problems posed by great distances, a scattered population, two official languages, and seven of the world's 24 time zones. Programs are planned regionally as well as nationally on CBC networks not only to provide as complete a service as possible during the broadcasting hours of each region but also to fulfil the regional needs and tastes of the listening public in various parts of the country. National programs are planned with a view to uniting the cultural tastes and interests of Canadians and providing good entertainment from each of the main program production centres.

Through CBC facilities, schools across Canada are provided with at least 30 minutes daily of broadcast programs specifically planned by departments of education to meet classroom requirements. In addition, national school broadcasts, prepared with the advice of the departments of education and teachers and financed by the CBC, are heard on Fridays. More than a million children in 15,000 schools across Canada hear these school broadcasts regularly. Canada's agricultural population is served by the most complete service of farm broadcasts in the world, including the weekly *National Farm Radio Forum*, which has about 12,000 members across Canada. A comparable program, *Citizens' Forum*, provides a national platform for discussion of topics of current interest. Programs of interest to women are

scheduled for afternoon listening; there are special children's programs for out-of-school listening; and time is allotted regularly for religious programs. Free-time political broadcasts arranged with the parties concerned are heard both nationally and regionally. The special *CBC Wednesday Night* program offers a full evening of the finest in drama, music, talks, poetry, recitals, and performances by such groups as the CBC Symphony and the CBC Opera Company.

Television.—Canadian television came to Canada officially in September 1952, when the CBC's first television stations, CBFT and CBLT, were opened at Montreal and Toronto, respectively. Both stations began programming about three hours each evening. By January 1953, the program



Final lighting adjustments are made as guests and panelists arrive for "Press Conference", a weekly CBC-TV presentation on which persons in the current news are interviewed by panel correspondents.

schedule at both centres had grown to 30 hours a week, and live programs from United States networks joined the Canadian schedule when the microwave link between Buffalo and Toronto was completed. By the end of May 1953, the microwave link between Toronto, Ottawa and Montreal was ready for service. In June the first Canadian TV network became a reality when the new CBOT at Ottawa swelled CBC-TV coverage to include one-third of Canada's population.

By the end of 1954, CBC stations were on the air in Vancouver (CBUT), Winnipeg (CBWT), Toronto (CBLT), Ottawa (CBOT, with French language outlet CBOFT under construction), Montreal (CBFT for French-language programs and CBMT the English language outlet), and Halifax (CBHT). Private television stations were on the air at Sydney, N.S., Saint John and Moncton, N.B., Rimouski and Quebec city, Que., Kingston, Hamilton,

London, Kitchener, Windsor, Sudbury, Sault Ste. Marie and Port Arthur, Ont., Regina and Saskatoon, Sask., Calgary and Edmonton, Alta. Three other private television stations are authorized for Sherbrooke, Que., Peterborough, Ont., and Brandon, Man. Ten stations between Windsor, Ont., and Quebec city were joined by direct microwave relay connection by the end of 1954, and plans were under way for the extension of the relay from coast to coast—expected to be in operation within the next three years.

All Canadian television stations serve as outlets for the national TV system in addition to producing their own programs. They are required to carry 10½ hours a week of national network programs. Stations beyond the microwave network receive CBC programs on television recordings. At the

one of the best known
farm families in
Ontario and Quebec
is the Craig family,
which broadcasts in
the CBC's noon-hour
farm program Monday
to Friday every week.



end of 1954 this CBC recording service was providing television stations with up to 50 hours programming a week.

Since Canadian television first went on the air it has become available to almost 75 p.c. of the Canadian population. To-day Canada is second in the world in terms of "live" television production and in terms of number of television transmitters in use.

CBC television has developed a program schedule covering the wide range of entertainment achieved in its sound broadcasting. These programs have included weekly drama series and leading sports events such as NHL hockey, and the Grey Cup football final (fed in 1954 by CBC to NBC in the United States and seen by one of the largest audiences ever to witness a Canadian sports event in North America). Children's series, news, variety, discussions, and many other types of programs have also been featured.

Two separate experiments in television for school children have been undertaken by the CBC School Broadcasts Department in collaboration with departments of education. The first, in March 1954, presented a series of out-of-school telecasts and the second, in November of the same year, represented the most extensive experiment ever undertaken by any television system in in-school television. The pattern for future efforts in this field will be based largely on the results of these experiments.

Most Canadian television productions are "live" from studios at Toronto and Montreal, although studios are in operation at Vancouver and are under construction at Winnipeg, Ottawa and Halifax. Some programs shown on the CBC network are fed directly from United States networks via the microwave relay and some film features are also offered from other countries.

The development of Canadian television is being accompanied by a great expansion in the electronics industry. In 1950 there were 30,000 television sets in use in the country; by 1951 the figure had climbed to 70,000 and by 1952 to 200,000. At the close of 1953 this number had doubled and by the end of 1954 there were well over 1,000,000 in use.

CBC International Service.—The International Service is financed wholly by funds voted by Parliament. The main program and production headquarters are in the Radio Canada building at Montreal and two powerful 50,000-watt transmitters at Sackville, N.B., are linked with the studios at Montreal by a landline 600 miles long. Altogether the shortwave broadcasts of the International Service are listened to in some 30 countries. The programs are broadcast in 15 languages: English, French, German, Dutch, Danish, Swedish, Norwegian, Italian, Spanish, Portuguese, Czech, Slovak, Polish, Russian and Ukrainian. Countries that have poor reception because of geographical reasons, such as Austria and Greece, receive transcribed programs. The International Service endeavors to give listeners in other



School broadcasts are planned on the theory that the radio's emotional appeal is its strongest point. Programs are intended to stimulate the student's imagination and increase his desire for study. An extensive experiment in classroom television programs is now under way.

lands Canadian views on international affairs and a picture of Canadian life, with special reference to cultural, social and economic development. The Service has also developed a transcription service, which prepares special programs of Canadian music and the spoken word on disks. These programs are made available to Canadian missions abroad and are sent to radio stations and networks around the world.

Postal Service

Postal service in Canada is provided from Newfoundland to the west coast of Vancouver Island, and from Pelee Island, Ont., the southernmost inhabited point of Canada, to settlements and missions far within the Arctic Circle.

Various facilities are used in the transporting of mails—railways, aircraft, motor-vehicles and inland and coastal steamers—but the principal means is the railway mail service which operates on about 40,000 miles of track and covers more than 47,000,000 miles yearly. There are about 1,310 railway mail clerks employed in sorting and exchanging mails while *en route* in postal railway cars and in steamers serving the coastal settlements of Newfoundland. The far northerly points receive mail by steamer, air-stage service and aircraft courtesy flights.

Canada's air-mail system provides several flights daily and constitutes a great air artery from St. John's, Nfld., to Victoria, B.C., intersected with branch and connecting lines radiating to every section of the country and linking up with the United States air-mail system. All first-class domestic mail up to and including eight ounces in weight is carried by air between one Canadian point and another, whenever delivery is thus facilitated. There are, altogether, approximately 30,000 miles of air-mail and air-stage routes in Canada.

Post offices are established for the transaction of all kinds of postal business at places where the population warrants, and letter-carrier delivery is given in 130 cities and towns. An extensive organization distributes mail to rural districts: 5,280 rural mail routes are in operation covering 125,000 miles of road and serving 424,000 rural mail boxes, and the majority of these receive daily service. Rural mail routes are generally circular in pattern and average 24 miles in length. Some 4,300 side services are in operation to transport mail between post offices, railway stations, steamer wharves and airports, while 2,993 stage services operate to service post offices not situated on railway lines. In cities and larger towns there are approximately 750 services conveying mails to and from sub post offices, postal stations, and railway stations, collecting mails from street letter boxes and delivering parcel post. In all, approximately 13,282 land mail service couriers travel in the neighbourhood of 50,000,000 miles annually. Land mail services are performed under a contract system, the contracts being awarded to the lowest tenderer who must provide all the requisite equipment.

An estimated 3,000,000,000 items of mail are delivered annually, a job requiring the use of the most modern mechanical handling devices. There were 12,202 post offices and 11,264 money-order offices in operation across the country on Mar. 31, 1954. For the year ended on that date, postage paid by means of postage stamps amounted to \$64,546,068 and the gross postal revenue was \$129,889,326. Post Office Savings Banks in operation in all parts of the country had combined deposits of \$37,792,914.



Finance—private, corporation and government—keeps the wheels turning and governs the pattern of life for the individual and the nation.

Finance

• Public Finance

A SUMMARY of the combined finance statistics of all levels of government in Canada is given in this section, together with a more detailed presentation of separate federal, provincial and municipal statistics.

Combined Statistics of All Governments

Combined Revenue and Expenditure.—In 1951, all three levels of government recorded increased net revenue and net expenditure as compared with the previous year. For the provinces and municipalities this represented a continuation of the rapid expansion of government financial activity subsequent to the War. The increased dollar expenditure may be partly accounted for by the general rise in price levels, but much of the increase may be attributed to the execution of capital expenditure programs curtailed or deferred during the War, to the rapid growth in population requiring government services and to the extension of government services in keeping with the considerable post-war expansion of the Canadian economy. On the other hand, the Federal Government, which was responsible for financing the war effort, decreased expenditure sharply after the cessation of hostilities in 1945 but, since 1948, increased social welfare payments and, lately, the defence preparedness program have caused another upward trend in federal spending.

Comparative Government of Canada, Provincial and Municipal Revenue, 1937-51

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

Year	Government of Canada	Provincial and Municipal			Grand Total
		Provincial	Municipal	Total	
REVENUE					
	\$'000	\$'000	\$'000	\$'000	\$'000
1937.....	460,544	221,397	304,161	525,558	986,102
1939.....	480,027	236,223	316,964	553,187	1,033,214
1941.....	1,389,433	301,842	331,206	633,048	2,022,481
1943.....	2,522,414	250,646	340,690	591,336	3,113,750
1945.....	2,694,116	316,724	356,289 ¹	673,013	3,367,129
1947.....	2,663,310	533,857	413,351 ¹	947,208	3,610,518
1949 ²	2,411,218	730,842	511,835 ¹	1,242,677	3,653,895
1950.....	2,905,578	827,286	560,437 ¹	1,387,723	4,293,301
1951.....	3,739,353	945,408	650,806 ¹	1,596,214	5,335,567
PERCENTAGE DISTRIBUTION					
1937.....	46.7	22.5	30.8	53.3	100.0
1939.....	46.5	22.8	30.7	53.5	100.0
1941.....	68.7	14.9	16.4	31.3	100.0
1943.....	81.0	8.1	10.9	19.0	100.0
1945.....	80.0	9.4	10.6 ¹	20.0	100.0
1947.....	73.8	14.8	11.4 ¹	26.2	100.0
1949 ²	66.0	20.0	14.0 ¹	34.0	100.0
1950.....	67.7	19.3	13.0 ¹	23.3	100.0
1951.....	70.1	17.7	12.2 ¹	29.9	100.0

¹ Revenue of municipalities in the Province of Quebec is estimated. ² Newfoundland included from 1949.

Comparative Government of Canada, Provincial and Municipal Expenditure (Capital and Current), 1937-51

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

Year	Government of Canada	Provincial and Municipal			Grand Total
		Provincial	Municipal	Total	
EXPENDITURE					
	\$'000	\$'000	\$'000	\$'000	\$'000
1937.....	444,599	359,689	296,288	655,977	1,100,576
1939.....	571,198	354,883	304,580	659,463	1,230,661
1941.....	1,718,787	311,260	292,517	603,777	2,322,564
1943.....	4,907,475	300,997	300,579	601,576	5,509,051
1945.....	4,652,841	370,875	334,261 ¹	705,136	5,357,977
1947.....	1,762,472	625,539	454,477 ¹	1,080,016	2,842,488
1949 ²	2,010,587	873,929	619,106 ¹	1,493,035	3,503,622
1950.....	2,494,731	923,740	682,146 ¹	1,605,886	4,100,617
1951.....	3,283,926	1,039,370	772,817 ¹	1,812,187	5,096,113
PERCENTAGE DISTRIBUTION					
1937.....	40.4	32.7	26.9	59.6	100.0
1939.....	46.4	28.8	24.8	53.6	100.0
1941.....	74.0	13.4	12.6	26.0	100.0
1943.....	89.1	5.5	5.4	10.9	100.0
1945.....	86.8	6.9	6.3 ¹	13.2	100.0
1947.....	62.0	22.0	16.0 ¹	38.0	100.0
1949 ²	57.4	24.9	17.7 ¹	42.6	100.0
1950.....	60.9	22.5	16.6 ¹	39.1	100.0
1951.....	64.4	20.4	15.2 ¹	35.6	100.0

¹ Expenditure of municipalities in the Province of Quebec is estimated.
foundland included from 1949.

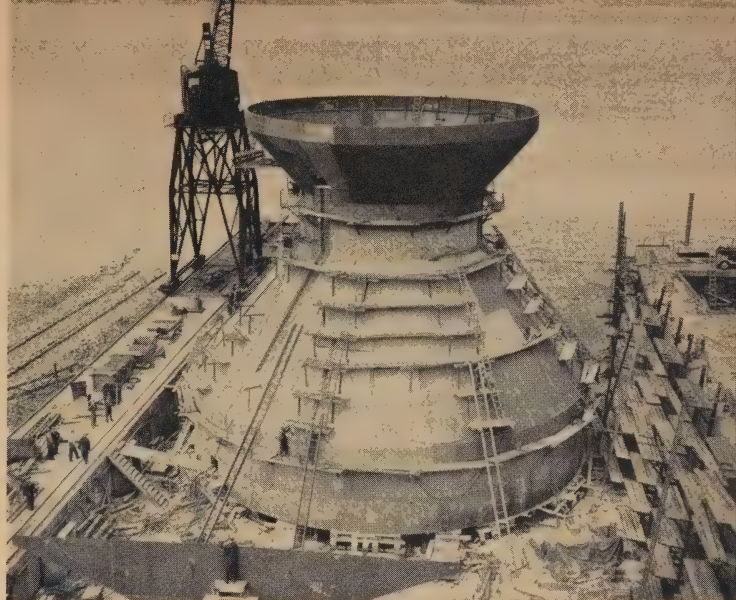
² New-

In the above tables, revenue and expenditure are shown on a net basis. Offset against expenditure are such revenue items as grants-in-aid and shared-cost contributions from other governments, interest revenue, institutional revenue, and certain sales of commodities and services. It should be noted that expenditure excludes debt retirement but includes expenditure financed from capital borrowings.

Combined Debt.—The figures in the following table represent total liabilities less sinking funds. New borrowings of provincial and municipal governments have shown a tendency to exceed debt retirement in the post-war years, as might be expected with the capital expansion programs undertaken by these governments. The net direct debt of the Federal Government was reduced in the years 1947 to 1949 but increased in the next two years.

Indirect debt, resulting from governmental guarantees of the debts of other corporate entities, has shown a distinctly different pattern of change at the various levels of government during the 1947-51 period. Provincial governments have demonstrated a considerable propensity to increase by financial guarantees their indirect support of various activities: between 1947 and 1951 the net indirect debt of the provinces increased annually. In 1951 the debt of certain boards which had previously been included in municipal indirect debt was included in direct debt; figures for that year are therefore not comparable with those of previous years. The total effect of fluctuations in the net indirect debt of the Federal Government over the years 1947-51 has been a moderate increase.

steel and concrete lighthouse pier ready for transporting to its final location in the St. Lawrence River. The provision of navigation aids for Canada's extensive inland and coastal waters is the responsibility of the Federal Department of Transport.



Combined Government of Canada, Provincial and Municipal Direct and Indirect Debt, 1947-51

NOTE.—Figures as at fiscal years ended nearest Dec. 31.

Item	1947	1948	1949 ¹	1950	1951
	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—					
Government of Canada.....	17,631,616	17,460,635	17,299,664	17,554,469	17,994,712
Provincial.....	1,746,824	1,820,191	1,941,941	2,005,051	2,197,435
Municipal.....	980,550 ²	1,009,193 ²	1,128,926 ²	1,277,841 ²	1,583,471 ^{2,3}
Totals.....	20,358,990	20,290,019	20,370,531	20,837,361	21,775,618
Less Inter-governmental Debt.	150,047	166,338	199,066	214,391	225,068
Combined Direct Debt...	20,208,943	20,123,681	20,171,465	20,622,970	21,550,550
Indirect Debt—					
Government of Canada.....	603,468	654,803	729,756	701,181	728,002
Provincial.....	471,599	564,509	737,870	860,371	947,609
Municipal.....	45,574 ²	47,006 ²	46,249 ²	45,542 ²	23,138 ²
Totals.....	1,120,641	1,266,318	1,513,875	1,607,094	1,698,749
Less Inter-governmental Debt.	21,094	22,382	21,900	20,711	25,101
Combined Indirect Debt..	1,099,547	1,243,936	1,491,975	1,586,383	1,673,648
Grand Totals, Direct and Indirect Debt.....	21,308,490	21,367,617	21,663,440	22,209,353	23,224,198

¹ Provincial and municipal debt of Newfoundland included in 1949 and thereafter.

² The debt of municipalities in the Province of Quebec is estimated.

³ Includes debt of certain boards previously shown as indirect debt.

Finances of the Federal Government

The following table records the trend of Canada's federal net debt from Confederation to 1954. In 1868 this net debt amounted to less than \$76,000,000, and in 1913 to \$314,000,000. Two world wars brought staggering increases and the net indebtedness of the Canadian Government reached a

peak of \$13,421,000,000 in 1946, amounting to \$1,091.88 per capita. For eight consecutive years the *Public Accounts of Canada* have shown a surplus of revenue over expenditure, reducing net indebtedness by corresponding amounts. A record surplus of \$676,119,657 was obtained in 1948 and in the fiscal year ended Mar. 31, 1954, the surplus was \$45,797,205.

Inflation of the general price level through the years reduces the significance of the magnitude of the Government debt, and the great expansion of the Canadian economy, both in absolute terms and in relation to population, allows the country to support the present debt on a sound financial basis. In terms of the gross national product, the trend in Canada's debt is, indeed, quite favourable. On Mar. 31, 1939, the net debt of Canada amounted to 60.2 p.c. of the gross national product, in 1946 this had risen to 113.3 p.c. but by 1953 the net debt was only 48.3 p.c. of Canada's gross national product.

Finances of the Federal Government, Years Ended Mar. 31, 1868-54

NOTE.—These figures are derived from the *Public Accounts of Canada* and differ from those in the preceding Combined Statistics section. Revenue and expenditure in this table are on a gross basis and net debt here represents the excess of gross debt over net active assets.

Year	Total Revenue	Per Capita Revenue ¹	Total Expenditure	Per Capita Expenditure ¹	Net Debt at End of Year	Net Debt Per Capita ²
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.95	13,716,422	3.96	75,757,135	21.58
1871.....	19,375,037	5.34	18,871,812	5.21	77,706,518	21.06
1881.....	29,635,298	6.96	32,579,489	7.66	155,395,780	35.93
1891.....	38,579,311	8.07	38,855,130	8.13	237,809,031	49.21
1901.....	52,516,333	9.91	55,502,530	10.47	268,480,004	49.99
1911.....	117,884,328	16.87	121,657,834	17.40	340,042,052	47.18
1921.....	436,888,930	51.06	528,899,290	61.82	2,340,878,984	266.37
1931.....	357,720,435	35.04	441,568,413	43.26	2,261,611,937	217.97
1941.....	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1942.....	1,488,536,343	129.36	1,885,066,055	163.82	4,045,221,161	347.11
1943.....	2,249,496,177	193.02	4,387,124,118	376.45	6,182,849,101	524.19
1944.....	2,765,017,713	234.42	5,322,253,505	451.23	8,740,084,893	731.63
1945.....	2,687,334,799	224.96	5,245,611,924	439.11	11,298,362,018	935.91
1946.....	3,013,185,074	249.60	5,136,228,505	425.47	13,421,405,449	1,091.88
1947.....	3,007,876,313	244.70	2,634,227,412	214.30	13,047,756,548	1,039.58
1948.....	2,871,746,110	228.81	2,195,626,453	174.94	12,371,636,893	964.80
1949.....	2,771,395,075	216.13	2,175,892,332	169.69	11,776,134,152	875.74
1950.....	2,580,140,615	191.87	2,448,615,662	182.09	11,644,609,199	849.23
1951.....	3,112,535,948	226.99	2,901,241,698	211.58	11,433,314,948	816.14
1952.....	3,980,908,652	284.17	3,732,875,250	266.46	11,185,281,546	775.14
1953.....	4,360,822,789	302.21	4,337,275,512	300.57	11,161,734,269	755.14
1954.....	4,396,319,583	297.43	4,350,522,378	294.33	11,115,937,064	731.55

¹ Based on estimated population as at June 1 of the immediately preceding year.

² Based on estimated population as at June 1 of same year.

After the end of the War, reduced taxation rates resulted in lower revenue, but since 1950 revenue has risen annually through moderately increased taxes and a widening base of economic activity. An all-time record revenue of \$4,396,319,583 was collected in the year ended Mar. 31, 1954. Annual expenditure, which was halved between 1944 and 1949, has also increased rapidly since 1950.

Summary of Revenue and Expenditure, Years Ended Mar. 31, 1952-54

Item	1952	1953	1954
	\$	\$	\$
Revenue			
Customs import duties.....	346,364,563	389,442,109	407,312,241
Excise duties.....	217,939,983	241,360,370	226,732,460
Income tax.....	2,161,373,408	2,473,790,089 ¹	2,432,603,505 ¹
Excess profits tax.....	2,364,909	—	—
Sales tax (net).....	573,470,562	566,233,167 ¹	587,331,544 ¹
Succession duties.....	38,207,985	38,070,530	39,137,594
Other taxes.....	318,053,672	288,696,672	310,467,109
Totals, Revenue from Taxation...	3,657,775,082	3,997,592,937	4,003,584,453
Non-tax revenue.....	281,971,660	280,134,664	318,186,825
Totals, Ordinary Revenue.....	3,939,746,742	4,277,727,601	4,321,771,278
Special receipts and other credits.....	41,161,910	83,095,188	74,548,305
Totals, Revenue.....	3,980,908,652	4,360,822,789	4,396,319,583
Expenditure			
Agriculture.....	67,134,389	106,710,890	108,361,384
Auditor General's Office.....	601,128	576,211	614,880
Canadian Broadcasting Corporation.....	8,300,972	8,235,311	24,996,275
Chief Electoral Officer.....	367,736	464,487	5,527,130
Citizenship and Immigration.....	23,240,788	23,646,348	28,478,651
Civil Service Commission.....	1,691,663	1,909,508	2,051,348
Defence Production.....	30,978,479	88,817,141	47,898,563
External Affairs.....	37,582,459	39,251,463	45,718,964
Finance.....	873,613,548	946,967,875	971,375,876
Fisheries.....	8,733,025	10,776,926	9,254,771
Governor General and Lieutenant Governors.....	275,114	396,924	399,086
Insurance.....	403,336	448,619	492,239
Justice, including Penitentiaries.....	14,038,715	14,908,495	15,017,396
Labour.....	64,302,099	67,021,861	67,561,441
Legislation.....	5,945,263	6,157,261	5,600,210
Mines and Technical Surveys.....	27,751,836	29,658,169	38,536,620
National Defence.....	1,415,473,862	1,882,418,468	1,805,914,922
National Health and Welfare.....	498,752,115	406,564,698	430,533,808
National Revenue.....	45,762,585	47,313,178	49,937,839
Northern Affairs and National Re- sources.....	—	—	19,118,141
Post Office.....	97,973,263	105,553,191	113,581,752
Prime Minister's Office.....	—	—	—
Privy Council Office.....	4,057,687	3,720,571	3,732,910
Public Archives.....	251,018	306,714	346,910
Public Printing and Stationery.....	1,103,156	1,607,237	2,036,771
Public Works.....	77,544,088	81,847,470	114,956,865
Resources and Development.....	34,432,805	38,477,423	2
Royal Canadian Mounted Police.....	27,340,713	31,141,321	33,845,572
Secretary of State.....	2,399,468	2,201,462	3,278,154
Trade and Commerce.....	46,896,842	44,846,035	44,626,253
Transport.....	99,900,569	103,905,716	118,012,795
Veterans Affairs.....	216,026,529	241,424,539	238,714,852
Totals, Expenditure.....	3,732,875,250	4,337,275,512	4,350,522,378
Surplus.....	248,033,402	23,547,277	45,797,205

¹Excludes tax credited to Old Age Security Fund. ²The expenditures of this Department have been transferred to the Departments of Northern Affairs and National Resources, Public Works, and Citizenship and Immigration.

While the volume of revenue has increased greatly, the pattern of collections has changed very little during the past few years. Taxes accounted for the major portion of revenue, varying between 88 p.c. in 1949 and 92 p.c. in 1952. Well over half the taxation revenue has been contributed by income tax. Next in importance are sales tax, customs import duties and excise duties. The striking change in departmental spending has been the vast

increase in defence expenditure. The combined disbursements of the Departments of National Defence and Defence Production increased nearly seven-fold between 1949 and 1954. In the latter year defence spending was down slightly to 43 p.c. of the total expenditure.

The 1954-55 Budget.—The Budget Speech concerning the fiscal year ending Mar. 31, 1955, was delivered in the House of Commons by the Minister of Finance on Apr. 6, 1954. A slightly increased expenditure for the year was forecast and the Government's policy of maintaining a balanced budget was confirmed. No income tax changes were proposed but a few minor tax concessions, estimated to cost the Government about \$36,000,000, were introduced. Although no revisions were proposed in the general sales tax rate, some changes were recommended with regard to the 15 p.c. special excise tax. The tax was reduced from 15 p.c. to 10 p.c. on such items as soft drinks, candy, cosmetics, tires and tubes, motorcycles, clocks, watches and jewellery. The 15-p.c. special excise tax was removed completely from furs, electrical household appliances, some sporting goods, cameras and luggage. The customs tariff was removed or lowered on certain items.

Funded Debt.—The outstanding unmatured funded debt (including treasury bills) of the Government of Canada at Mar. 31, 1954, amounted to \$14,576,-168,250, a decrease of \$234,359,339 from the previous year. The portion of the unmatured funded debt payable in Canada was 97.3 p.c., the portion payable in London amounted to 0.4 p.c. and in New York to 2.3 p.c. at Mar. 31, 1954.

Income Tax.—Considerable change has taken place since 1941 in the number of persons paying income tax. In that year there were 871,484 taxpayers, a figure which, with the increasing employment of the war and post-war years, increased to 2,689,930 in 1948. In 1949, exemption allowances were raised and the number of taxpayers decreased to approximately the level of the war years. Since then, however, the number has again shown marked growth, attributable to the favourable economic conditions prevailing and to the substantial post-war immigration; in 1952 the number of taxpayers reached a new high of 3,125,100.

Distribution by income groups also changed during the same period. In 1941, 61 p.c. of all taxpayers had incomes of under \$2,000 but in 1952 only 23 p.c. of the taxpayers were in that category and 67 p.c. had incomes of between \$2,000 and \$5,000.

Taxpayers classified by Income Group, Alternate Years, 1941-52

Year	Taxpayers by Income Group					Total Taxpayers	Total Tax
	Under \$2,000	\$2,000-\$2,999	\$3,000-\$4,999	\$5,000-\$9,999	\$10,000 or Over		
	No.	No.	No.	No.	No.	No.	\$'000,000
1941.....	534,337	198,252	92,047	34,325	12,523	871,484	223
1943.....	1,434,243	513,875	153,936	45,954	15,346	2,163,354	801
1945.....	1,487,984	529,202	167,269	53,242	16,549	2,254,246	642
1947.....	1,238,560	773,780	249,800	76,190	28,126	2,366,456	622
1949.....	745,520	848,960	485,130	113,570	38,790	2,231,970	501
1951.....	732,910	961,620	855,400	176,890	51,130	2,777,950	812
1952.....	736,680	986,520	1,111,960	230,300	59,640	3,125,100	1,072



The Instrument and Radar Division of the Crown-owned corporation, Canadian Arsenals Limited. This company, in its nine plants, manufactures a wide range of explosives, small arms, radars and ammunition.

Members of the 42nd Infantry Workshop, RCME, awaiting embarkation orders at Pusan, Korea. Their departure in January 1955 completed the policy of reducing by two-thirds the Canadian Forces serving in the Far East.



Number of Taxpayers, Total Income Declared and Taxable, and Tax Collected Thereon, by Province and Occupational Class, 1952

Province or Class	Taxpayers	Total Income Declared	Net Taxable Income	Total Tax
	No.	\$'000	\$'000	\$'000
Province				
Newfoundland.....	34,710	110,453	45,220	9,775
Prince Edward Island.....	6,540	21,305	9,568	2,512
Nova Scotia.....	93,890	275,496	102,627	21,333
New Brunswick.....	65,320	193,616	72,865	15,447
Quebec.....	706,420	2,317,967	984,415	236,187
Ontario.....	1,364,260	4,556,453	2,178,915	497,773
Manitoba.....	157,790	493,677	214,019	48,187
Saskatchewan.....	131,050	435,693	199,628	43,580
Alberta.....	209,350	692,637	329,723	73,113
British Columbia.....	339,280	1,130,680	537,274	117,667
Yukon Territory.....	2,970	10,135	5,716	1,205
Non-residents.....	13,520	35,921	21,368	5,004
Totals.....	3,125,100	10,274,033	4,701,338	1,071,783
Class				
Primary producers.....	72,100	286,076	137,148	29,476
Professionals.....	31,700	247,155	176,366	54,041
Employees.....	2,753,590	8,361,048	3,564,710	753,393
Salesmen.....	33,230	152,826	80,422	19,341
Business proprietors.....	158,320	811,081	470,060	132,519
Financial.....	64,240	359,026	244,825	76,299
Estates.....	5,550	28,973	12,613	2,879
Deceased.....	5,620	25,572	14,097	3,593
Unclassified.....	750	2,276	1,097	242

Collection statistics are gathered at the time the payments are made and are thus quite up to date. However, because collections are made before the filing of income tax returns, these figures cannot be directly related to those for individual taxpayers given above.

Collections under the Income Tax Act, Years Ended Mar. 31, 1945-54

Fiscal Year	General Income Tax		Tax on Undistributed Income	Non-resident Tax	Total Income Tax
	Individuals	Corporations			
	\$	\$	\$	\$	\$
1945.....	767,755,082	276,403,849	—	28,599,137	1,072,758,068
1946.....	691,586,114	217,833,540	—	28,309,619	937,729,273
1947.....	694,530,146	196,819,253	41,972,700	30,136,146	963,458,245
1948.....	659,828,215	351,535,006	12,596,108	35,889,028	1,059,848,357
1949.....	762,563,516	488,549,610	3,440,514	43,445,764	1,297,999,404
1950.....	621,982,213	602,072,622	1,120,510	47,474,846	1,272,650,191
1951.....	652,328,680	711,576,735	87,619,776	61,610,319	1,513,135,510
1952.....	975,776,320	1,118,067,202	14,612,872	55,017,014	2,163,473,408
1953.....	1,225,275,562	1,266,556,794	10,383,356	53,674,377	2,555,890,089
1954.....	1,278,355,616	1,238,015,309	8,771,289	53,761,291	2,578,903,505

Provincial Finance

In 1951 over half of the net general revenue of provincial governments consisted of taxes. The most remunerative of these taxes, on the whole, were the corporation taxes and the taxes on gasoline sales, although in a few

provinces where general sales taxes were levied these provided a large share of the revenue. The next largest category of provincial government income consisted of privileges, licences and permits, pertaining mainly to the exploitation of natural resources and to the operation of motor-vehicles. The profits of government monopoly liquor sales and the federal tax-rental agreements were the other major sources of provincial revenue.

Transportation and communications, education, health, and social welfare continue to constitute the bulk of net general expenditure of provincial governments.

Net General Revenue and Expenditure of Provincial Governments, by Province, 1950 and 1951

NOTE.—Figures are for fiscal year ended nearest Dec. 31.

Province or Territory	Net General Revenue		Net General Expenditure	
	1950	1951	1950	1951
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	21,028	25,183	27,536	29,995
Prince Edward Island.....	5,590	6,048	7,537	8,368
Nova Scotia.....	35,685	38,794	53,988	51,855
New Brunswick.....	32,271	40,697	43,463	44,624
Quebec.....	238,883	277,406	233,986	275,500
Ontario.....	265,705	303,842	298,779	367,726
Manitoba.....	41,643	46,073	40,912	48,717
Saskatchewan.....	66,668	74,777	68,168	77,449
Alberta.....	105,276	105,751	73,702	84,840
British Columbia.....	138,681	157,102	160,169	170,136
Yukon Territory.....	1,023	1,187	1,001	1,163
Totals.....	952,453	1,076,860	1,009,241	1,160,373

Analysis of Net General Revenue of Provincial Governments, 1950 and 1951

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Source	1950	1951	Source	1950	1951
	\$'000	\$'000		\$'000	\$'000
Taxes.....	478,508	566,380	Non-revenue and surplus receipts.....	1,893	2,394
Federal tax rental agreements.....	92,782	95,887	Totals.....	952,453	1,076,860
Privileges, Licences and Permits—					
Motor-vehicles.....	67,060	72,645			
Natural resources.....	99,325	113,307			
Other.....	40,325	42,323			
Sales and services.....	23,387	29,925	SUMMARY OF LIQUOR CONTROL REVENUE		
Fines and penalties.....	2,439	2,916	(included above)—		
Other Governments—			Sales tax.....	1,608	1,615
Government of Canada			Permits.....	25,031	28,370
Share of income tax on power utilities.....	4,458	3,714	Fines and penalties.....	663	1,062
Subsidies.....	25,300	26,615	Profits.....	114,505	115,640
Municipalities.....	851	879	Confiscations.....	27	64
Government enterprises...	115,425	119,099	TOTALS.....	141,834	146,751
Other revenue.....	700	776			

Analysis of Net General Expenditure of Provincial Governments, 1950 and 1951

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Function	1950	1951	Function	1950	1951
	\$'000	\$'000		\$'000	\$'000
General government.....	37,042	45,481	Contributions to municipal governments.....	16,595	22,626
Protection of persons and property.....	50,783	60,537	Contributions to government enterprises.....	11,754	14,592
Transportation and communications.....	249,958	299,474	Other expenditures.....	8,110	8,960
Health.....	158,142	173,983	Sub-Totals.....	1,006,739	1,158,184
Social welfare.....	86,869	92,274	Non-expense and surplus payments.....	2,502	2,189
Recreation and cultural services.....	5,768	6,890	Totals.....	1,009,241	1,160,373
Education.....	183,115	196,481			
Natural resources and primary industries.....	71,934	85,110	Less Debt Retirement (included above).....	66,937	86,530
Trade and industrial development.....	5,667	6,660	Totals, exclusive of Debt Retirement.....	942,304	1,073,843
Local government planning and development.....	1,500	1,973			
Debt charges.....	119,502	143,243			

Both the net direct and the net indirect debt of the combined provinces in 1952 again showed increases over the previous year. The increase in direct debt was general to all provinces except Alberta and British Columbia. The indirect debt of Nova Scotia, Quebec, Manitoba, Saskatchewan and Alberta was reduced, but that of the other five provinces increased.

Details of Net Direct and Net Indirect Debt of Provincial Governments (less Sinking Funds), 1951 and 1952

NOTE.—Figures are as at fiscal year ended nearest Dec. 31.

Detail	1951	1952	Detail	1951	1952
	\$'000	\$'000		\$'000	\$'000
Direct Debt—			Indirect Debt—		
Bonded Debt.....	2,211,084	2,372,798	Guaranteed Bonds...	900,558	1,049,107
Less sinking funds...	364,929	423,254	Less sinking funds..	4,885	5,301
Net Bonded Debt.	1,846,155	1,949,544	Net Guaranteed Bonds.....	895,673	1,043,806
Treasury bills.....	153,122	121,466	Guaranteed bank loans.....	23,073	18,558
Savings certificates and deposits.....	1,548	1,474	Municipal Improvement Assistance Act loans.....	3,945	3,682
Temporary loans and overdrafts.....	996	9,311	Other guarantees....	24,918	26,078
Bonds due.....	377	172,830	Totals, Net Indirect Debt.....	947,609	1,092,124
Bond interest due...	1,057				
Accounts and other payables.....	169,517	26,017	Grand Totals...	3,145,152	3,372,766
Accrued expenditures	24,771				
Totals, Net Direct Debt.....	2,197,543	2,280,642			

Net Direct and Net Indirect Debt of Provincial Governments (less Sinking Funds), by Province, 1951 and 1952

NOTE.—Figures are as at fiscal year ends nearest Dec. 31.

Province or Territory	Direct Debt		Indirect Debt	
	1951	1952	1951	1952
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	5,352	14,706	31,392	33,552
Prince Edward Island.....	17,562	17,574	297	391
Nova Scotia.....	175,502	181,117	4,914	3,918
New Brunswick.....	166,240	170,681	10,029	10,509
Quebec.....	361,638	385,819	299,014	289,828
Ontario.....	805,316	847,984	571,295	717,134
Manitoba.....	140,165	154,862	440	393
Saskatchewan.....	163,984	173,832	800	705
Alberta.....	104,924	101,115	5,905	5,016
British Columbia.....	256,752	232,952	23,523	30,678
Yukon Territory.....	108	—	—	—
Totals.....	2,197,543	2,280,642	947,609	1,092,124

Gross Provincial Bonded Debt, by Currency of Payment, 1951 and 1952

NOTE.—Figures are as at fiscal year ends nearest Dec. 31. Bonded debt of other authorities assumed by provincial governments is excluded.

Payable in—	1951	1952
	\$'000	\$'000
Canada, only.....	1,450,160	1,522,623
London (England) only.....	16,643	16,643
London (England) and Canada.....	3,499	3,499
New York only.....	265,025	358,255
New York and Canada.....	296,047	297,243
London (England), New York and Canada.....	177,945	172,770
Totals.....	2,209,319	2,371,033

Education services in Canada required an outlay of about \$484,000,000 in 1951 by federal, provincial and local governments—the provinces allocated about 17 p.c. of their total expenditures to this purpose and the municipal governments over 31 p.c.



Municipal Finance

In Canada, local government is administered by the municipalities, which numbered 4,196 at Dec. 31, 1953. These vary greatly in size and also in the services they provide.

Areas governed municipally may be either urban or rural. Urban municipalities are usually distinguished by the official names of city, town and village, though in Quebec villages are officially regarded as rural. Sometimes the official designation is misleading—municipalities may be incorporated in the rural classification though they have become urbanized extensions of the greater metropolitan cities. A very few others have rural designations but are partly urbanized, as where a mining centre has sprung up within the boundary of a municipality.

Incorporated municipalities include within their boundaries only a small portion of the area of Canada, but they serve most of the population. Outside lie a few school districts, and in parts of municipally unincorporated territory some local services are provided by the provincial government concerned. A great part of the area of Canada has not sufficient density of population to warrant even these limited activities. In most provinces the municipalities levy the local taxation for school authorities but exercise little or no control over school administration or finance. In much of Quebec and Prince Edward Island and in limited areas of some other provinces, school authorities levy and collect local taxes.

Municipal Assessed Valuations, Tax Levies, Collections and Receivables, 1941-52, and by Province, 1952

Year and Province	Valuations on which Taxes were Levied	Tax Levies	Tax Collections (Current and Arrears)	Percentage of Levies to Collections *	Total Taxes Receivable and Property Acquired for Taxes
	\$'000	\$'000	\$'000		\$'000
1941.....	7,859,415	272,458	237,680 ¹	104·6 ¹	237,133
1943.....	7,906,826	278,697	298,196	107·0	192,777
1945.....	8,155,068	291,693	..	..	134,021
1947 ²	6,237,747	259,941	255,748	98·4	79,482
1949 ²	7,232,125 ³	334,138	325,109	97·3	87,423
1950 ⁴	10,251,875	367,554	356,838	97·1	97,072
1951 ⁴	11,849,707	569,512	410,798 ³	96·5 ²	128,832
1952					
Newfoundland.....	..	1,768	1,631	92·2	515
Prince Edward Island	35,581	1,349	1,238	91·8	352
Nova Scotia.....	314,804	19,250	18,838	97·9	5,087
New Brunswick.....	397,054	15,181	14,143	93·2	4,491
Quebec.....	3,868,454	159,005	..	..	23,783
Ontario.....	4,773,779	263,197	259,439	98·6	29,224
Manitoba.....	650,022	39,280	37,399	95·2	12,156
Saskatchewan ⁴	941,281	43,067	43,218	100·3	18,935
Alberta ⁴	987,492	53,079	52,560	99·0	22,951
British Columbia.....	712,928	48,577	48,397	99·6	9,199
Totals, 1952.....	12,681,395	643,753	476,863	98·4	126,693

¹ Excludes Quebec cities and towns.

² Quebec not included as information not available.

³ Includes cities and towns only for Quebec.

⁴ Includes information for Local Improvement Districts for Saskatchewan and Alberta.

Each spring, street repair and construction sets a familiar pattern. Maintenance in most Canadian cities is a costly business because part of the work done in summer is undone by winter weather.



Estimated municipal revenue for 1952 was \$756,900,000; 70 p.c. was derived from taxes on real property, 13.5 p.c. from other taxes, and the remaining 16.5 p.c. from licences and permits, public utility contributions, provincial subsidies and other sources.

Support of local schools currently requires the largest expenditure by municipal governments. In 1952 estimated total expenditures were \$745,700,000 and the proportion of that total spent on education services was 31.5 p.c. Public welfare took 13.4 p.c., transportation 13.3 p.c. and debt charges, together with provisions for debt repayment, 14.4 p.c.

Direct and Indirect Liabilities of Municipal Governments (less Sinking Funds), by Province, 1950-52

Province	1950		1951		1952	
	Direct	Indirect	Direct ¹	Indirect	Direct ¹	Indirect
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	3,589	..	4,002	..	4,508	..
Prince Edward Island.....	3,031 ²	..	3,461 ²	..	3,971 ²	..
Nova Scotia.....	37,494 ²	1,129	46,437	756	52,432	726
New Brunswick.....	37,402	652	44,917	2,278	50,527	3,623
Quebec.....	..	..	549,262	7,312	606,107	22,400
Ontario.....	421,843	13,196	538,118	11,919	616,134	11,096
Manitoba.....	52,896	7,569	77,588	868	76,951	1,348
Saskatchewan.....	41,038	..	47,081	..	50,328	..
Alberta.....	103,317	..	119,464	..	144,569	500
British Columbia.....	116,299	17,001	153,141	5	186,666	13
Totals.....	816,909	39,547	1,583,471	23,138	1,792,193	39,706
Grand Totals.....	856,456		1,606,609		1,831,899	

¹ Includes some debt previously shown as Indirect Debt.

² Exclusive of rural schools.

Municipal Bonded Debt and Sinking Funds, Certain Years 1919-50, and by Province, 1950-52

Year	Gross Bonded Indebtedness	Total Sinking Funds	Province	Gross Bonded Indebtedness		
				1950 ¹	1951 ²	1952 ²
	\$'000	\$'000		\$'000	\$'000	\$'000
1919.....	729,715	3	Newfoundland.....	3,001	3,646	4,136
1925.....	1,015,950	3	Prince Edward Island.....	3,302	3,740 ⁴	4,250 ⁴
1930.....	1,271,390	3	Nova Scotia.....	42,797	49,191	51,974
1935.....	1,372,026	267,709	New Brunswick.....	41,402	47,354	52,397
1940.....	1,244,001	259,343	Quebec.....	452,413	444,256	502,944
1945.....	965,450	168,365	Ontario.....	363,578	458,506	521,992
1946.....	503,426 ⁵	118,964 ⁵	Manitoba.....	55,038	72,450	71,995
1947.....	515,066 ⁵	119,063 ⁵	Saskatchewan.....	32,035	35,639	39,629
1948.....	..	..	Alberta.....	80,428	102,916	119,751
1949.....	..	..	British Columbia.....	146,351	174,567	198,786
Totals.....				1,220,345	1,392,265	1,567,854

¹ Excludes rural schools in Prince Edward Island and Nova Scotia.

² Includes some

debt previously shown as Indirect Debt.

³ Sinking fund totals not available before 1934;

Alberta showed net debt to 1928.

⁴ Excludes rural schools.

⁵ Excludes Quebec.

• *Banking*

The Canadian banking system is a strong and stable structure with many outstanding features that have grown up since its foundations were laid more than a century ago. It consists of the Bank of Canada, which is a government-owned central bank, and ten privately owned commercial banks competing among themselves for the domestic and foreign banking business of the Canadian people. These institutions operate under the provisions of the Bank of Canada Act and the Bank Act both of which were amended during 1954.

The Bank of Canada is the keystone of the structure. Its chief function is to regulate the total volume of money and credit through changes in the cash reserves of the chartered banks. Each chartered bank is required to maintain, on the average during each calendar month, an amount of cash reserves, in the form of Bank of Canada notes and deposits with the Bank of Canada, equal to not less than 8 p.c. of its Canadian dollar deposit liabilities. (Before the Revision of the Bank Act, effective July 1, 1954, each chartered bank was required to maintain at all times cash reserves equal to not less than 5 p.c. of its Canadian dollar deposit liabilities; in practice, the chartered banks normally attempted to maintain a ratio of about 10 p.c.)

An increase in cash reserves encourages banks to expand their assets (mainly by purchasing securities and making loans) with a resultant similar increase in their deposit liabilities; a decrease in cash reserves tends to discourage expansion and may result in some contraction. Therefore, by taking steps to alter the volume of cash reserves available to the chartered banks, chiefly through open market purchases and sales of Government of Canada securities, the Bank of Canada is able to influence the total of chartered bank assets and the total of their Canadian dollar deposit liabilities. The deposit liabilities of the banks, except for those payable to the Government, are of course assets of the general public and together with currency comprise its most liquid assets.

Trading desk of the Royal Bank's Foreign Exchange Department, whose services are available to any customer through his local branch. It is linked up directly with branches, other financial institutions and cable companies.



The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. It is empowered to buy and sell securities on the open market, to discount securities and commercial bills, to fix minimum rates at which it will discount, and to buy and sell bullion and foreign exchange. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and twelve Directors; the Deputy Minister of Finance is also a member of the Board.

The Industrial Development Bank, established in 1944, is a subsidiary of the Bank of Canada but operates as a separate entity. Its function is to supplement the activities of the chartered banks and other lending agencies by supplying the medium and long-term capital needs of small enterprises; the bank does not engage in the business of deposit banking. Current authorizations of loans, investments and guarantees of the Industrial Development Bank at Sept. 30, 1954, amounted to \$60,089,177 and amounts outstanding totalled \$42,373,730.

Commercial Banking.—There are ten commercial banks in Canada whose main function is to provide a safe repository for savings and surplus funds and to furnish credit for carrying on the business of the country.

Commercial banks in Canada are called "chartered" because they receive a charter or licence to do business from the Parliament of Canada. Canada has developed the branch bank system to a greater extent than any other nation and each bank has a head office and numerous branches. They operate in all parts of the country under the provisions of the Bank Act, control of banks and banking being a federal matter under the Canadian constitution.

One feature of the Bank Act is that it extends bank charters for only ten years at a time. Thus every ten years the Bank Act is revised and brought into line with changing economic conditions and the banks, in effect, are made to justify their existence. This is done in public hearings before the

Banking and Commerce Committee of the House of Commons. The result is that banking in Canada is never static but is progressive and flexible and adaptable to new needs.

The eighth decennial revision of the Bank Act was completed in 1954. Perhaps the most important of the broad basic changes was to empower the banks to lend on mortgage on new housing projects, a departure from a long-standing prohibition under Canadian banking law. The principle of variable cash reserves was introduced, the Bank of Canada having the power to vary gradually, after due notice, the cash reserves of the chartered banks between a minimum of 8 p.c. and a maximum of 12 p.c. of Canadian deposit liabilities. The banks were given the power to lend against the security of oil in the ground and, in loans to individuals, to take a chattel mortgage on household goods including motor-cars.



Payroll days are busy days in a branch bank. To speed up service, the teller uses coin-counting machine and the bills are pre-wrapped.

There were many changes of a technical nature made in the Bank Act. The note-issuing privileges of the banks, in process of progressive reduction since the Bank of Canada was set up in 1934, were wiped out. The minimum subscribed capital for a new bank was increased from \$500,000 to \$1,000,000 and the minimum paid-up capital from \$250,000 to \$500,000. Changes were made in the method of offering new stock in established banks.

As at Sept. 30, 1954, there were 4,154 bank branches in Canada and 119 in foreign countries, mostly in the United States, Great Britain, the West Indies and South America. In addition to foreign branches, Canadian banks maintain banking correspondents throughout the world, facilitating Canada's world-wide trade.

OF MONTREAL

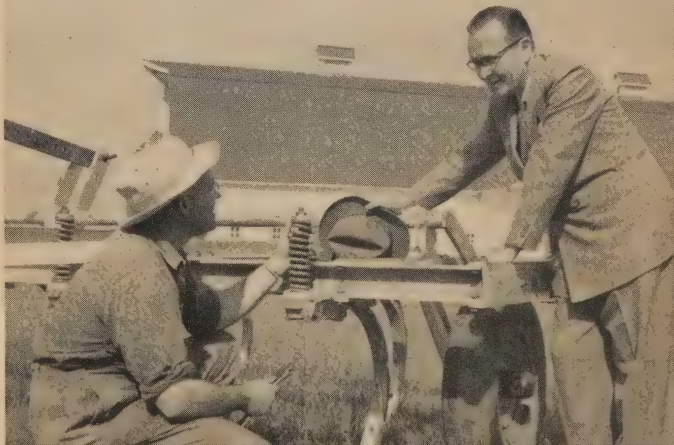
The "after-hour" depository provides a safeguard for customers operating late-hour businesses. This banking service is available in the larger centres across Canada.



Although Canadian banks are subject to close regulation by federal authorities, they are uncontrolled in their day-to-day affairs. They are subject to the authority of the Minister of Finance whose link with them is an official of the Department of Finance, the Inspector-General of Banks. He has the responsibility of inspecting the books of each bank at least once a year and he may do so oftener. This inspection is in addition to that carried out by auditors appointed by the shareholders of each bank and reporting to them and the continuous audit by the inspection staff of the bank, which includes every branch.

There is extremely keen competition among the chartered banks, extending even to branches of the same bank in one community. There is competition for deposits, loan business and general banking services. There is also competition in opening new branches, not only in cities and towns but in frontier areas. During the past ten years, 900 new branches were opened in various parts of Canada to keep pace with population increases and new

The Farm Improvement Loans Act, administered by the Department of Finance, offers dependable credit to farmers through the co-operation of the chartered banks. Here a bank manager discusses a loan with one of his clients.



development areas. In relation to total population, Canada has a branch bank for each 3,735 persons, a higher ratio than the United States or the United Kingdom.

The branch bank is a self-contained unit. It operates under the general supervision of its head office but has a full range of banking services, whether in a big city or small hamlet. The strength of the whole institution stands behind each branch, fully responsible for its commitments and undertakings. Excess funds from branches where deposits exceed loan potentials are credited to head office which, in turn, makes them available to branches where lending funds are needed. In this way, there can be no dearth of credit through lack of local funds.

The chartered banks are owned by 68,000 shareholders, 72.8 p.c. of whom are Canadian. In 1953 the shareholders' equity in the banks totalled \$414,300,000 and dividends averaged 4.9 p.c. There has been no bank failure since 1923 and note holders have had no losses since 1881.

Statistics of Individual Chartered Banks, Sept. 30, 1954

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabilities to Shareholders	Liabilities to the Public	Loans and Discounts	Total Deposit Liabilities ²
	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Bank of Montreal..	620	2,522,971	2,522,971	2,407,750	888,046	2,369,233
Bank of Nova Scotia	433	990,210	990,210	942,210	525,359	922,629
Bank of Toronto ³ ..	256	582,129	582,129	560,129	241,579	556,963
Provincial Bank of Canada.....	348	216,934	216,934	208,934	95,037	208,211
Canadian Bank of Commerce.....	682	1,960,380	1,960,380	1,887,380	864,697	1,852,544
Royal Bank.....	808	2,893,308	2,893,308	2,774,280	1,112,216	2,709,911
Dominion Bank ³ ..	192	522,461	522,461	501,461	268,794	494,493
Banque Canadienne Nationale.....	567	540,364	540,364	525,364	247,363	523,797
Imperial Bank of Canada ³	242	649,845	649,845	630,845	302,077	623,182
Barclay's Bank (Canada).....	4	36,892	36,892	30,892	10,200	28,792
Mercantile Bank of Canada. ⁴	2	5,850	5,850	3,950	1,747	3,623
Totals...	4,154	10,921,344	10,921,344	10,473,195	4,557,115	10,293,378

¹ Includes sub-agencies which numbered 703, including 7 outside of Canada.

inter-bank deposits.

² Excludes

the Toronto-Dominion Bank on Feb. 1, 1955.

³ The Bank of Toronto and the Dominion Bank amalgamated to become

⁴ Commenced business Dec. 7, 1953.

• Insurance

Life Insurance.—Life insurance business in Canada in 1953 continued the increasing rate of expansion in evidence particularly since the end of World War II. During 1953, new insurance business written, including industrial, group and fraternal insurance, amounted to \$2,827,000,000, which brought the total life insurance in force in Canada at the end of the year to \$22,648,000,000. This represents an average of \$1,532 of insurance protection for every man, woman and child in the country. The amount of premiums paid to carry this insurance was \$485,000,000. Total benefits paid during

the year to policyholders, including death claims, matured endowments, disability claims, dividends, surrender values and annuity payments were over \$288,000,000. Life insurance in Canada is actively transacted by 62 companies and 39 societies registered by the Federal Government, of which 31 companies and 15 societies are Canadian, 6 companies are British, and 25 companies and 24 societies are foreign. There are also 12 companies and about 45 societies operating under provincial licence only.

Fire Insurance.—The growth of the fire insurance business has also been substantial and, though a good part of this growth may be attributed to the increase in the practice of insurance, it is also indicative of the advance in the amount and value of insurable property throughout the country. Fire insurance in force at the end of 1953 amounted to approximately \$46,000,000,000, premiums written amounted to \$167,000,000, and claims paid to \$78,000,000. These figures include the business of 290 companies registered by the Federal Government to transact fire insurance business in Canada (73 Canadian companies, 86 British and 131 foreign) as well as a number of provincially incorporated companies and Lloyds of London.

Casualty Insurance.—Casualty insurance includes: accident (personal accident, employers' liability and public liability); sickness; aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery; guarantee; hail; impact by vehicles; inland transportation; live stock; personal property; plate glass; real property; sprinkler leakage; theft; water damage; weather; and windstorm. Premiums written for all classes of casualty amounted to \$348,000,000 in 1953. In that year there were 308 companies registered by the Federal Government to transact casualty business in Canada, of which 76 were Canadian, 82 British and 150 foreign. The majority of these companies also reported fire business. The figures for 50 provincially incorporated companies and Lloyds are also included.

Accident and Sickness Insurance.—Great strides have been made in recent years in making voluntary accident and sickness insurance available to Canadians through more than 60 insurance companies, Blue Cross Hospital plans operating in eight provinces, eight medical-care plans sponsored by the medical profession, and numerous co-operative organizations. At the end of 1953, 5,900,000 Canadians had hospital expense insurance, 4,600,000 had surgical expense insurance and 3,500,000 had medical expense insurance. Most of these people have acquired this protection during the past ten years through the medium either of group insurance or of individually purchased policies. During the three years 1951 to 1953 alone, nearly 1,500,000 Canadians became insured against hospital expenses and almost 2,000,000 against surgical and medical expenses. Estimated duplication of coverage has been deducted from these figures.

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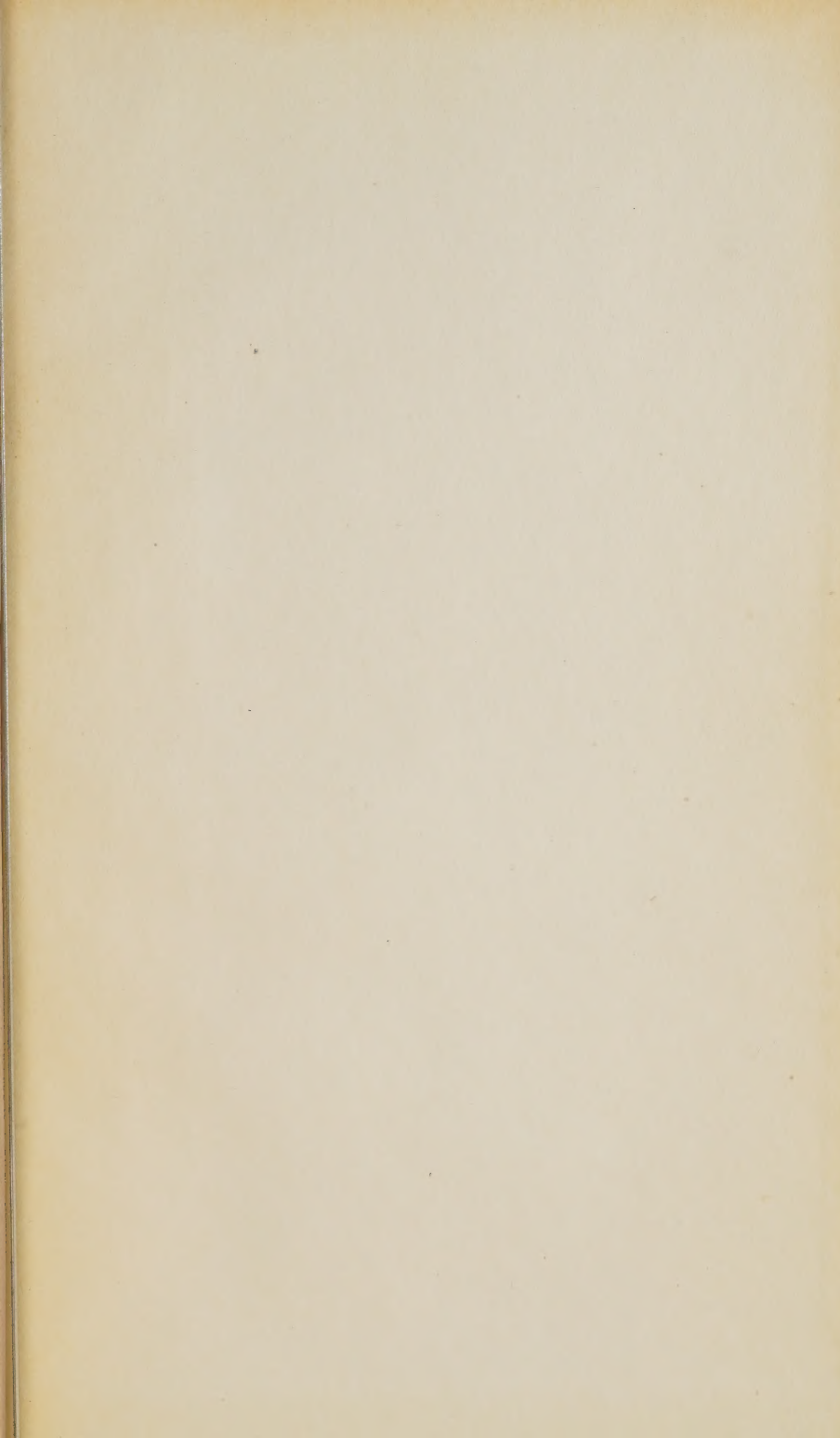
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